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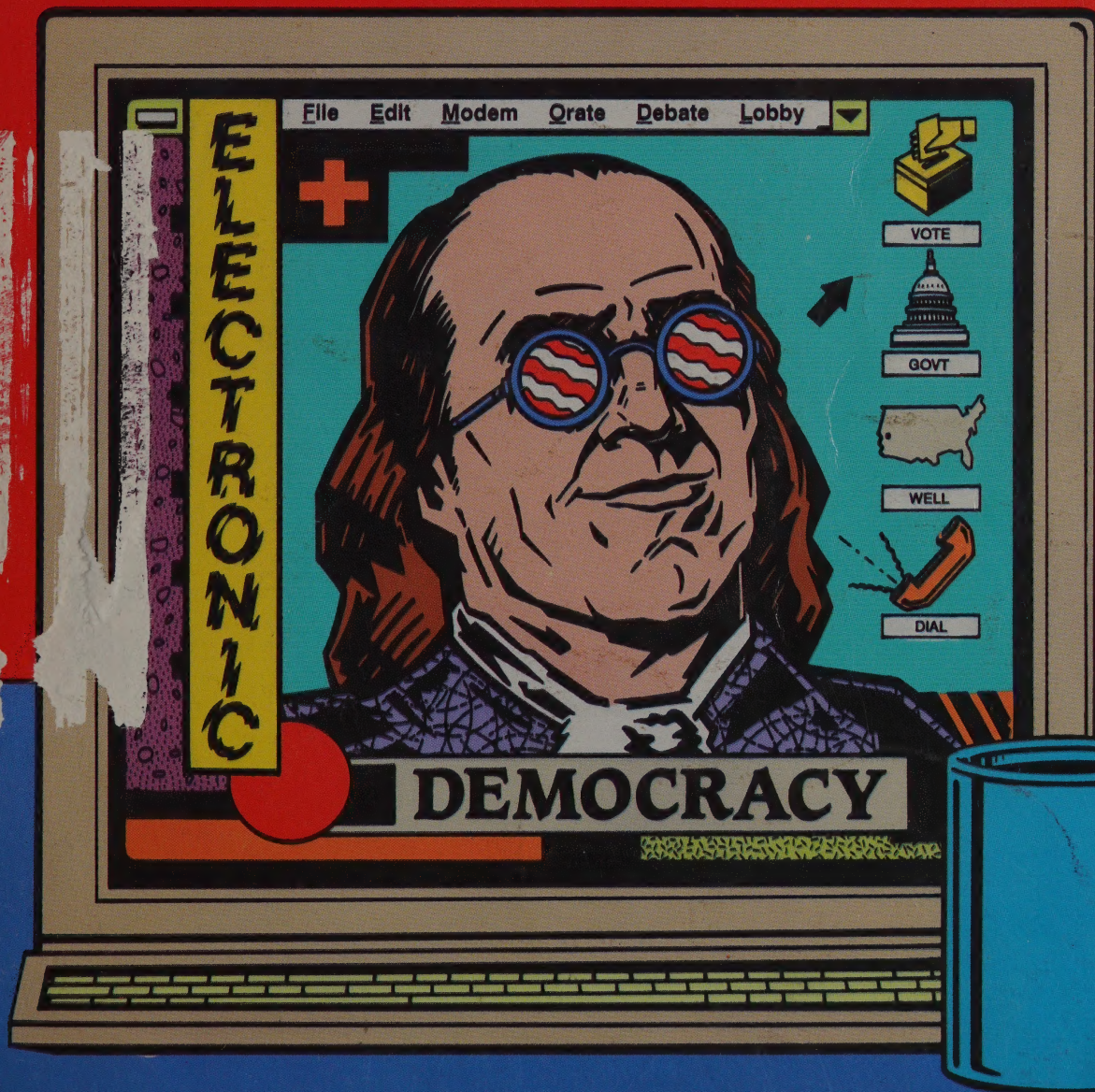


WHOLE EARTH

REVIEW

ACCESS TO TOOLS & IDEAS

Myths ★ Menstruation ★ Multimedia



1 2

THIS MODERN WORLD by TOM TOMORROW

GOOD EVENING--I'M TED KOPPEL--

AND I'M TED KOPPEL'S HAIR!

HUH?

FOR YEARS, MANY OF YOU HAVE NOTICED SOMETHING VAGUELY AMISS ABOUT TED'S COIFFURE. THERE HAS BEEN MUCH SPECULATION. IS IT A WIG? DOES TED HAVE NO MIRRORS IN HIS HOME?

WELL, THE TRUTH OF THE MATTER IS THAT I--TED KOPPEL'S HAIR--AM AN ALIEN BEING FROM A DISTANT PLANET!

THE PEOPLE OF MY RACE MUST LIVE IN A SYMBIOTIC RELATIONSHIP WITH A HOST BEING IN ORDER TO SURVIVE! I HAVE BEEN AN ADVANCE SCOUT STUDYING YOUR RACE, AND AFTER MANY YEARS, I HAVE DETERMINED THAT WE ARE QUITE COMPATIBLE!

EVEN AS I SPEAK, MILLIONS OF MY PEOPLE ARE ON THEIR WAY TO THIS PLANET.

NOW, THE SYMBIOSIS IS HARMLESS TO THE HOST-- AND WILL EVEN BE BENEFICIAL, AS WE WILL OF COURSE SHARE OUR ADVANCED KNOWLEDGE OF PHILOSOPHY, SCIENCE AND ART-- FOREVER ENDING FAMINE, WAR AND DISEASE ON YOUR PLANET.

THE ONLY DRAWBACK-- heh heh -- IS THAT EVERY HUMAN ON EARTH WILL HAVE HAIR LIKE TED KOPPEL!

OH NO-- NO--

HONEY-- WAKE UP!

GEEZ--I JUST HAD THE MOST TERRIBLE NIGHTMARE--

BILL--WHAT'S THAT THING ON YOUR HEAD?

THE GLOBAL CONNECTION

As if in pain, the helicopter's jet turbine engine screeched sharply, groaned once, and died. Now, silhouetted against the Himalayas, the quiet helicopter began to spiral slowly toward the ground. The passengers, a group of United Nations doctors, looked around furtively as the pilot, his jaw clenched, maneuvered the paralyzed bird down in tight circles.

After a silent eternity, the pilot brought the craft down just outside of Biratnagar in the remote terrain of Nepal.

"What's wrong?" a passenger asked.

"Nothing much," the pilot replied, "but we'll need to file a spare-parts order: 'Engine. One.'" —p. 18

MAKING SENSE

I left New York sooner than I had expected. Only six years earlier, I'd felt I had truly arrived, and that I would never leave. For years there was nothing I did not like about the place. I loved the crowds, the smells, the food, the subways, even the sixth-floor walk-up apartment. There was no reason to suspect that I would ever feel compelled to return to rural life, not after I had so purposefully given up life on the farm to search for Life in the City. The City was a place of endless possibility where I could live a life of study and reflection, a life tempered by the arts and seasoned with pleasures of foods, society, and sophistication unknown to the rural drudge. It was the place I had long lived in my imagination, and as I walked from top to bottom and side to side, going everywhere, seeing everything, it was no less gritty and glorious underfoot than it had been in my fondest daydreams. But this all passed. —p. 94

DOGPUNCTURE

On a recent Saturday, an eight-year-old German shepherd named Buttons sat on the floor of the Campanile Veterinary Clinic in Oakland, California. He had thin needles sticking out of his head, neck, the flesh above his lower spine, and his thighs. His owner sat on a bench nearby, placidly glancing at her watch from time to time. Buttons was receiving acupuncture, and all was well.

—p. 112

INSIDE

SNAKE TALK

Compare and contrast: History of People. History of Man. Man Invents the Wheel. People Invent the Wheel. Man's Search for Meaning. People's Search for Meaning. The trouble with Man is not just that he's a man, but that there's only one of him. One tall, clear-eyed, well-hung, jut-jawed male striding through the ages toward a goal both logical and grand. The History of People sounds messy and casual and it was.

Maybe inspiration means something that helps you breathe, something that gives you room to breathe in deep. —p. 76

SPIRITUAL MENSTRUATION

I used to think that my period was a nuisance, a messy intrusion that increased laundry and caused a host of unpleasant symptoms including exhaustion and debilitating pain. Menstruation interfered with my sex life, with athletic activities, and with my energy level. It caused mood swings, irritability, and destructive, unstoppable bitchiness. It cost money — in pads and tampons to absorb the blood, in ruined clothes, in time away from work. It was a mean and sneaky saboteur that would always come at the most inconvenient time.

Despite this catechism of woe, when my period came there was always a part of me that was pleased. —p. 84

MULTIMEDIA GRANDMA

For my great-grandmother, the matriarch of a large family, personal storytelling was an effective and accessible tool for cultural transmission. As the oldest daughter of her oldest daughter's oldest daughter, I have tried to combine the records of my great-grandmother's oral storytelling with new tools, such as interactive video, now that the family has dispersed to various cities, become increasingly secular, and turned its media-savvy attention to television and computers. —p. 54

CHARCOAL BRICOLAGE

Tap, tap, tap . . . tap, tap, tap . . . tap, tap, tap. Walking through the narrow alleys of a bustling marketplace in the Sudanese city of El Obeid, you can't help being drawn to the rhythmic staccato of an artisan at work.

Down past the odd stray goat, a quick stutter step around a cluster of curious children, and a fast turn past the shoppers gesturing emphatically as they bargain with hard-nosed merchants, a cluttered and beat-up-looking stall is starting to attract lots of attention.

—p. 108

DREAMS & MYTHS

I think one of the wonderful things about a myth is that it mediates between the abstract and your own memory of how you felt when your father died. It combines the point of a philosophical dogma or abstract idea with the vividness of one's own dream and the detail that goes between the two of them. It takes your experience with

all the detail that makes you care — what was he drinking, what kind of wine was it, what kind of dress was she wearing, what was the embroidery like — and then says, "By the way, this is enormously general." It allows you to hold in suspension together your commitment to a really personal experience and your commitment to a philosophical idea, which is "everybody dies," or "an awful lot of people died in WWI." I think that is a power that a great myth has. —p. 44

THE GREAT EQUALIZER

In the age of mass media, citizens and grassroots groups need an equalizer. The combination of personal computers and the telephone network might prove as important to citizens in the information age as the printing press has been for several centuries. The use of electronic mail services, computer bulletin-board systems, and computer conferencing systems as channels to make decisions and disseminate information can help grassroots political organizations, nonprofit groups, and other public interest groups to gather critical information, organize political action, sway public opinion and guide policy-making.

—p. 4


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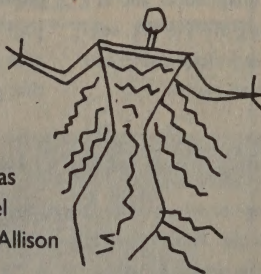
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COVERS

Brad Hamann is a Brooklyn-based freelance illustrator and a subscriber since Issue 20 of *CoEvolution Quarterly*, way back in the winter of 1978. He says, "Frankly, it's helped me get through permanent residence in NYC a number of times." Look for further examples of his work in the Electronic Democracy section of this issue, or go back to "Garbage In Mind" in our last issue.

Tom Erikson (back cover) specializes in photographing performers at work; he has frequent exhibitions in bohemian San Francisco cafes and bars.
—Jonathan Eveleigh

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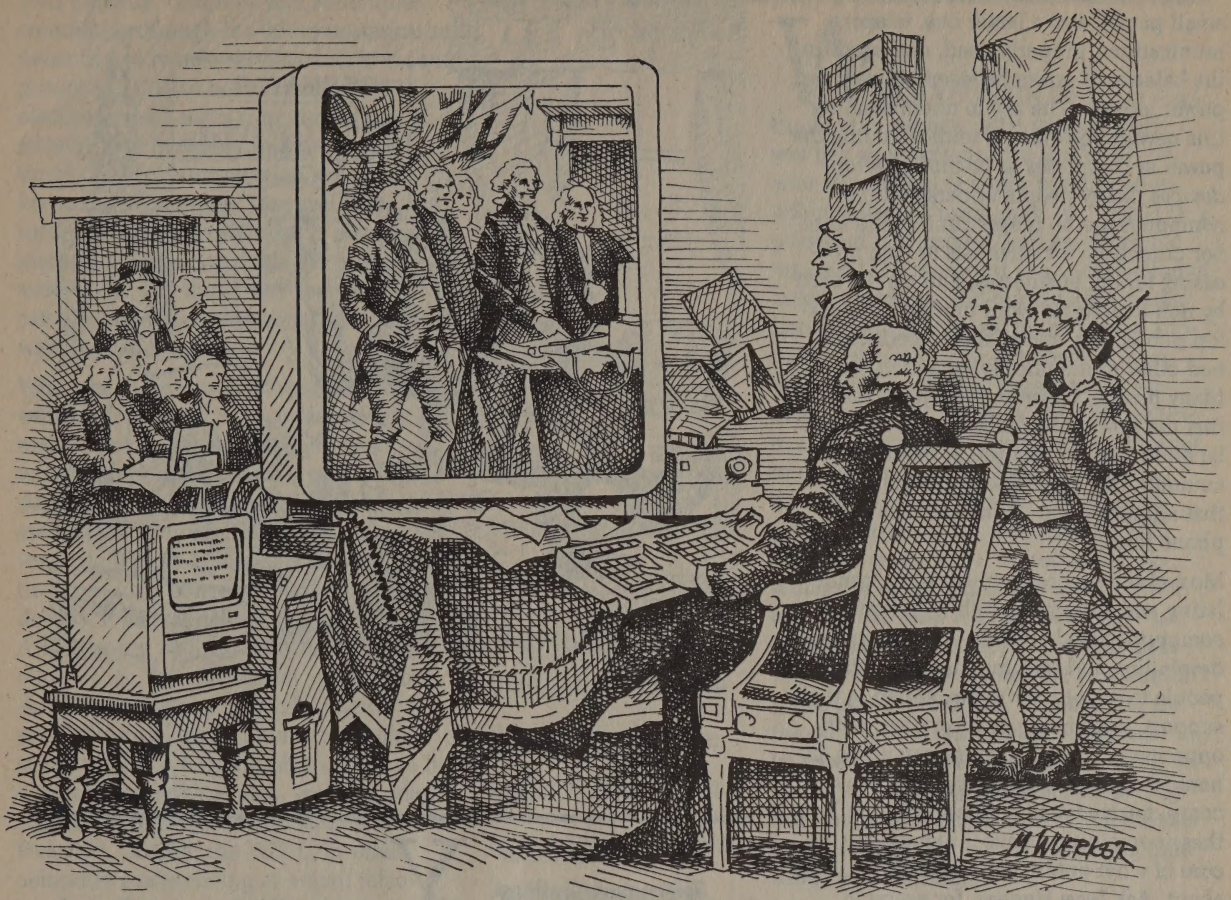
GATE 5 ROAD

ELECTRONIC DEMOCRACY

THE FOLLOWING ARTICLES are about power — how to gain it, influence it, and exercise it in a modern democratic society. Big government, big business, big politics already know how to use telecommunication technologies to amplify their effectiveness. The cost of access to these technologies is no longer an insurmountable barrier to citizens, but the arcane knowledge of how to use these tools to provide leverage for community organizing activities remains an obstacle. The purpose of this article, and those that follow it, is to help demystify electronic mail, computer bulletin-board systems, computer conferencing, and other tools that can help citizens gain some of the communication and persuasion power that has heretofore been limited to large institutions. —HR

A popular government without popular information, or the means of acquiring it, is but a prologue to a farce or a tragedy, or perhaps both. Knowledge will forever govern ignorance, and a people who mean to be their own governors must arm themselves with the power which knowledge gives.

—James Madison



The Great Equalizer

by Howard Rheingold

Illustrations by Matt Wuerker

IN THE AGE OF MASS MEDIA, citizens and grassroots groups need an equalizer. The combination of personal computers and the telephone network might prove as important to citizens in the information age as the printing press has been for several centuries. The use of electronic mail services, computer bulletin-board systems, and computer conferencing systems as channels to make decisions and disseminate information can help grassroots political organizations, nonprofit groups, and other public interest groups to gather critical information, organize political action, sway public opinion and guide policy-making.

Just as the advent of the Colt .45 revolver during the taming of the West equalized the balance between a

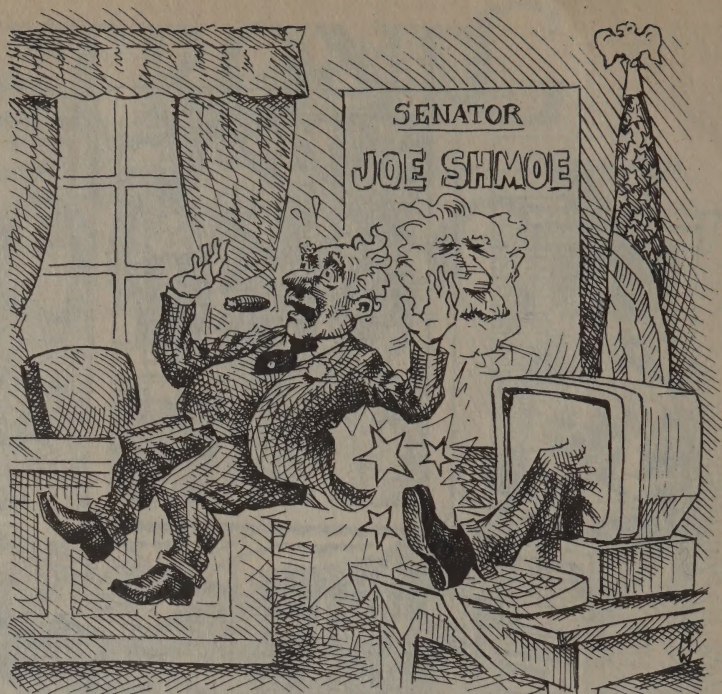
small person and a larger one, telecommunications, properly used, can equalize the balance of power between citizens and power brokers. The key to understanding this new opportunity is understanding the power of *computers as communication devices*. Many people understand that computers are no longer confined to number crunching for scientists or data processing for big businesses, and can be used by non-experts for word processing, desktop publishing, spreadsheet forecasting, and other mind-amplifying activities. Many people, however, have yet to realize that the power of personal computers can be multiplied by equipping them with communication hardware and software that allow them to "talk" over the telephone lines.

Most of the processes involved in formulating and advocating public policy are communicative in nature — meeting others, developing and refining ideas, persuading people to adopt your views, enlisting their support, negotiating compromises with opponents. These functions can all be enhanced significantly through the use of computer-mediated communications. And these communicative techniques are the core of what public policy influence is all about. Ask Dave Hughes, for example.

Dave Hughes is a pamphleteer and activist who uses a laptop computer and a modem in place of a printing press. Hughes, a retired West Point instructor and combat veteran of Korea and Vietnam, now uses a computer bulletin board system in Colorado Springs to mobilize action in local political matters.

"Electronic citizenship means freedom of electronic expression," Hughes claims. "I think that Benjamin Franklin would have been the first owner of a microcomputer. I think that the Declaration of Independence would have been written on a word processor. And I think that Tom Paine would have made *Common Sense* available on an electronic bulletin board."

The rest of this article explains how telecommunication technologies work and points to resources and references that can help you start using these tools. The articles that follow, contributed by a variety of organizations and organizers, will show you how people are using these tools today to amplify their ability to change the world.



The Fundamentals of Telecommunications

YOU NEED FOUR KEY PIECES of hardware to get started: a computer, a communications card in your computer that enables you to use it as a communication device, a modem that converts your computer's output into a form that can be transmitted over telephone lines (and reconverts it from the audible signals that travel over telephone lines into a form that your computer can use), and a telephone. A good introductory book on telecommunications, such as those listed in the bibliography to this article, can tell you how to locate, set up, and operate the hardware. A very basic computer that can be used as a telecommunication terminal can be obtained for a few hundred dollars (less than \$100 in some instances). A more powerful computer that can serve multiple needs for an organization can be obtained for \$1,000 or less. The price of modems has dropped dramatically and will continue to drop. You should be able to find one for less than \$100.

Telecommunication software and telecommunication services are the other components you will need. The most basic form of telecommunication software enables you to type commands on the keyboard of

your personal computer and send those commands through the telecommunication network to a remote service such as a computerized bulletin board system (BBS), electronic mail service, or conferencing system. Very inexpensive (or even free) forms of telecommunication software, known as "shareware," are available; this inexpensive or free software is often remarkably useful, especially for getting started. For less than \$100, very sophisticated commercial telecommunication software is available.

When you have your hardware and software working, you need to know the telephone numbers of services that can connect you with other people. The cheapest way to start is by using local BBSs, most of which are free. You can look in the classified advertising section of any controlled-circulation computer newspaper and find lists of dozens, if not hundreds, of such "boards." Almost every BBS has an online list of other BBSs. You can perfect your online skills, meet people, gain information, at very little cost. If you want to send electronic mail to a large number of people in a larger geographical area, you will need a subscription to MCI Mail, CompuServe, PeaceNet, EcoNet, the WELL, or other computer conferencing or e-mail (electronic mail) systems that interconnect with other networks. Because my electronic home, the WELL, has connections with Internet systems, as well as MCI and CompuServe, I can reach and be reached by millions of people worldwide. Costs for each of these systems vary (see the access information at the end of this article).

The missing element is support. Once you have your technology working and your service subscription, you need to figure out how to use it effectively. Fortunately, every system worth its salt offers online support and telephone numbers for access to people who can talk you through the procedures. Indeed, figuring out how to use telecommunication technology by questioning knowledgeable people is one of the best uses of telecommunication technology (see the article about CompuMentor on page 14).


Until you spend some time exploring these new communication media, terms can be confusing. The following sections explain how electronic mail, BBSs, and conferencing systems work, and briefly outline the advantages to using these media.

Electronic Mail

WHEN YOU SIGN UP for an electronic mail service, what you get when you pay your entrance fee and/or fill out your registration is a user identification (often called a "username" or "userid"), a password, an account, and an electronic mailbox. The password is a combination of letters, numbers, and punctuation marks known only to you and to the service provider. Your username is known to every other person who has access to the service, and is the "address" that others use to contact you; conversely, when you want to contact others, you look in an online directory and send e-mail to the appropriate username. My username on MCI Mail, for example, is "hrheingold." So when you create a message on MCI Mail, and want to send it to me, you type "hrheingold" on the subject line. My password is a nonsense word that you wouldn't guess unless I told you. Because you are the only person who knows your password, you are the only person who uses your account, so you are responsible for paying the charges that accrue due to the number of messages or the amount of online time used by that account.

When you want to check your e-mail or send e-mail, you use your telecommunication software to dial the number provided by the service. When your modem connects with one of the service's modems, you see a "prompt" on your computer screen that asks you to enter your username. After you type your username on your computer keyboard, you are prompted to enter your password. The service's computer checks your username against the password, and if they match, you are permitted to send and receive electronic mail. If there is mail waiting for you, a message usually appears on your screen.

An electronic mailbox is a portion of the service's computer memory that is dedicated to your use. If somebody sends you e-mail, their message will be stored there until you read it. If you check your e-mail a few minutes after the message is sent to you, it is available. If you check your e-mail a few weeks or months after it is sent to you, it is available. When you read your e-mail, you can print it on your desktop printer, store it in the service's longterm storage (which is different from your e-mailbox), store it as a computer file on your desktop computer, and/or reply. ▶




"I think that Benjamin Franklin would have been the first owner of a microcomputer. I think that the Declaration of Independence would have been written on a word processor. And I think that Tom Paine would have made *Common Sense* available on an electronic bulletin board."

Electronic mail has several distinct advantages over other forms of communication. Like the telephone, and unlike "snailmail" (as e-mail users refer to postal delivery), delivery is instant; at most, it takes a few minutes for the service to deliver your mail to the e-mailbox of the recipient. Unlike using the telephone, the recipient doesn't have to be online at the moment you want to communicate. This "asynchronous communication" aspect of e-mail eliminates telephone tag. Response is easy and immediate: instead of composing a reply, printing it, putting it in an envelope, and delivering it to a post office or mailbox, you simply type your reply on your computer keyboard.

The cost of e-mail is an advantage that increases in importance as the cost of snail-mail and the more expensive delivery services — all of which are linked to energy costs related to moving physical objects around the planet — increase. E-mail services charge between ten cents and two dollars for messages up to 500 characters. Many services charge by the length of your message, others charge by the amount of time you are online; when you are charged for online time, you can compose your messages offline with a word processor, then "upload" them online very quickly. Another cost- and time-saving feature is the capability of sending your message to multiple addresses or even to a mass-mailing list. Some services offer substantial discounts for volume mail, and some services enable you to use your electronic account to send fax and paper-mail for an additional fee.

Electronic mail can give small organizations big leverage. For one example of this kind of leverage, see the article on page 39 about Earthtrust, an environmental-action organization that uses electronic mail to link remote monitoring stations all around the world.



If you want to sell a bicycle, find out the cheapest way to fly to Saskatchewan, argue about politics, or learn about telecommunications, you can "log on" to a BBS, read what others have written in the public communication area, and add your own comments.

bulletin board where people can post notices and participate in public discussions. If you want to sell a bicycle, find out the cheapest way to fly to Saskatchewan, argue about politics, or learn about telecommunications, you can "log on" to a BBS, read what others have written in the public communication area, and add your own comments. It's amazing how apprehensive one can be about typing words on a keyboard in the security of one's home, knowing that those words are going to be stored in a computer on the other side of town or the other side of the world, to be read by complete strangers. And it's amazing how exciting it can be when you log on again a few hours or a couple days later and find welcoming letters in your e-mailbox and replies to your public comments. Many people find it to be a particularly addictive form of communication; many people, and I include myself, have formed deep friendships and have participated in true community-building through a BBS system located in somebody's home.

Tens of thousands of BBSs are in operation in North America alone, most of them in people's homes, most of them single-line operations (which means that only one person can access the BBS at a time), many of them devoted to a specific area of interest (paganism or Christianity, politics of the left or right, skateboards or science fiction, computer games or ecology). BBSing has created a full-fledged subculture, with national conventions, paper publications, and local social events, all organized online. Most BBSs are free, some of them charge users. There are even global networks of BBSs.

BBSs have the communication advantages of e-mail, plus a few of their own. First, a BBS makes "many-to-many" communication possible, just the way a bulletin board in the town square does — except you can visit the town square by typing a command on your computer at home or the office, and the "town" can consist of a small city, a state, or an entire country. The topic-oriented structure of a BBS system, the capability of "branching" discussions when they begin to drift from the original topic, the capability of using both public and private messages to build communities, the capability of "downloading" software (including software to run your own BBS — a self-propagating characteristic of this medium), the fact that communication style rather than physical appearance counts,

Electronic Bulletin-Board Systems

A BULLETIN-BOARD SYSTEM is a large (or small) computer, with one or more modems and telephone lines connected to it, and software that allows people with computers and modems to call and leave messages. As with electronic mail services, you can send and receive e-mail on almost every BBS system. Unlike services that are devoted strictly to delivering e-mail, a BBS is literally an electronic

are all powerful advantages of BBSs and computer conferencing systems that I will discuss at greater length below. BBSs, when used knowledgeably, also can be superb tools for grassroots political organizing, or for leveraging the activities of any grassroots public interest or nonprofit organization.

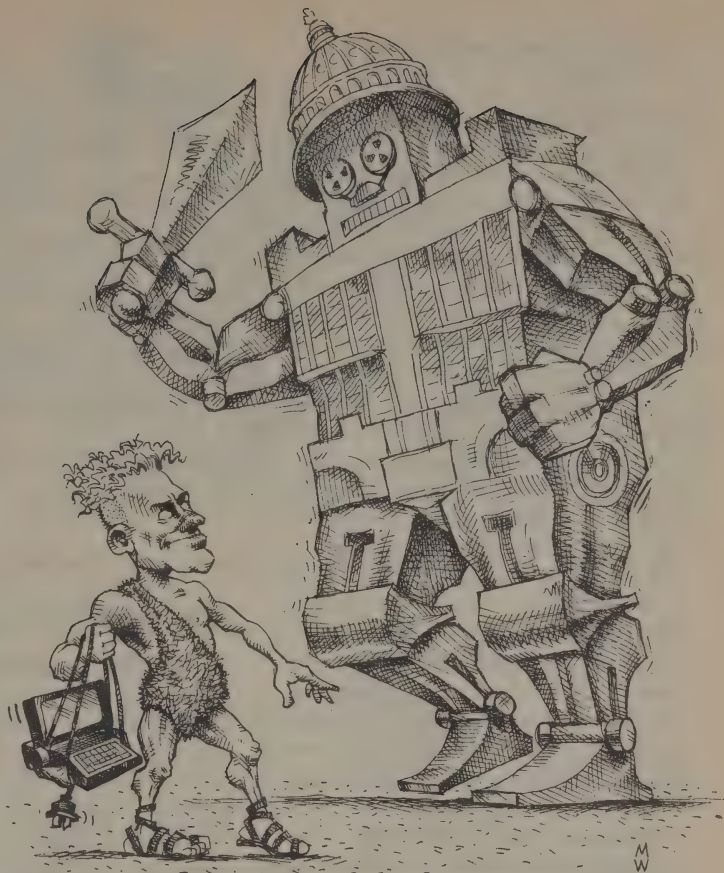
Dave Hughes figured out how to use a BBS to exert political leverage on local government. Ask anybody in Colorado Springs, where Hughes made his first foray into electronic democracy because he wanted to find a way of letting local vendors, who had been shut out of bidding on the county computer contract, air their complaints. The press logged on, asked questions online, and confronted the county commissioners with the complaints and the facts they had compiled.

“It got so hot that county staff members were observed reading from BBS printouts at the podium during formal meetings,” Hughes recalls. “In the end,” he adds, “the commissioners knuckled under, went to bid, the whole inefficient and incestuous system was exposed, and today there is a whole new approach to information management in the county. The key was that members of the press, who knew that something was wrong but lacked the technical expertise to ask the right questions, were able to use my BBS to meet, efficiently, with a wide range of experts, and thus tackle a difficult form of investigative journalism.”

For his next foray into BBS politics, Hughes invited a candidate for city council to post his views on Hughes’ BBS, and to respond to questions from voters. The candidate was elected, and the councilman continues to use the BBS to communicate with his constituents.

Hughes is a believer in “teleports” — communities like his own, where people can enjoy a small-town atmosphere and work from their homes using computers and modems. When the Colorado Springs city council looked like it was going to make a decision that would effectively prohibit telecommuting, Hughes went into action.

“The city planners of Colorado Springs decided to tighten the ordinance that regulates working out of the home,” Hughes recalls. “Their proposal would not only have made home entrepreneurship suffer, it would have flown in the face of high technology, as an increasing number of people use computer tools at home to earn



money. I was the only person to stand up in front of the planning commission and testify against the ordinance; the planners tabled the matter for thirty days. I then brought the text of the ordinance home with me and put it on my BBS.”

Hughes sent letters to the editors of his two local papers, inviting people to log onto his BBS and read the ordinance. Two hundred and fifty callers above the normal traffic level for his BBS called within the next ten days. What Hughes did not realize at the time was that many of those callers worked in large high-tech plants, and they downloaded, printed, copied, and circulated hundreds of copies of the ordinance throughout the city. At the next city council meeting, more than 175 citizens, representing every part of the political and social spectrum of Colorado Springs, showed up to protest the ordinance. It was defeated. Hughes points out that “Ordinarily, the effort needed to get involved with local politics is enormous. But the economy of effort that computers provided made

it possible for me to mobilize opinion and action.”

Never one to rest on his laurels, Hughes prodded Colorado Springs to create a City Council Telecommunications Policy Advisory Committee, which does its business on the city's new BBS; the committee is proposing recommendations on how to make elected officials publicly accessible online. Penrose Public Library in Colorado Springs, working with the city, now has "City Hall Online," which includes all announcements, agendas, and minutes of meetings. Then Hughes decided to see what he could do for candidates on a county-wide scale: "I used my personal computer to log onto the county clerk's computer and download the entire registration list of all the voters in my precinct. Now anyone can dial me and go into the world's first political precinct BBS." Next, he told his local branch of the Democratic party that he could put 100 percent of the voters in every one of the 120 precincts of the county on a public BBS. The cost would be nominal, considering the fact that his county normally charges \$800 to print out the list. The Colorado State Legislature is implementing a modem dial-up service for legislative information. Last I heard of Dave, he was up in Montana, helping his friends Frank and Reggie Odasz set up the Big Sky Telegraph (see article on page 32). On the WELL, we often see the conversations that Dave has "ported" from BBS systems in China, Estonia, and Saudi Arabia. He might be a grassroots organizer, but he understands that he is dealing with a medium that has global reach as well as local leverage.



Conferencing systems structure discussions according to topic, making it easier for people to find interests, and to request and offer specific information. If your organization is concerned about ecology, you can go to an ecology discussion area and browse the list of discussions, selecting from topics devoted to local water resources or national air quality.

thirty or more people online at any one time. CompuServe has several hundred thousand members, and hundreds of people can be online at one time. In addition to mail and public discussion, computer conferencing systems often have facilities for receiving, storing, and displaying longer documents, which makes them a kind of instant-publication medium.

Like a BBS, a conferencing system is time- and distance-independent. People can log onto the system from different places at different times on different dates and participate in ongoing discussions. Many-to-many conferencing makes it possible for one person to communicate with many others, and to read communications from many others. Conferencing systems structure discussions according to topic, making it easier for people to find others who share their interests, and to request and offer specific information. If your organization is concerned about ecology, you can go to an ecology discussion area and browse the list of discussions, selecting from topics devoted to local water resources or national air quality. If you need to know how to operate a specific kind of hardware or software, you can read a list of discussions and find the one devoted to your equipment.

By organizing information this way, it is possible for networks of people to serve as informal support systems for one another. If I need help figuring out how to use a new kind of software, or want the titles of books about a field that attracts my interest, I can log onto a conferencing system, look for the appropriate topic, and post a query. Then I can log off, go about my business, and when I check back an hour or a day later, I often find that somebody I've never met has answered my question. A conferencing system that includes a broad base of members with a wide variety of expertise is a "living database" in which everyone can serve as a librarian and consultant for everyone else.

The combination of time- and distance-independence, many-to-many capabilities, and topic orientation makes computer conferencing attractive as a medium for conducting ongoing or time-limited "electronic meetings" (see the article on page 18 about an international health-care organization that has been using computer conferencing for this purpose since 1983). Meetings are the bane of most organizations — think of the time and effort required to get a group of people in the same place at

Computer Conferencing

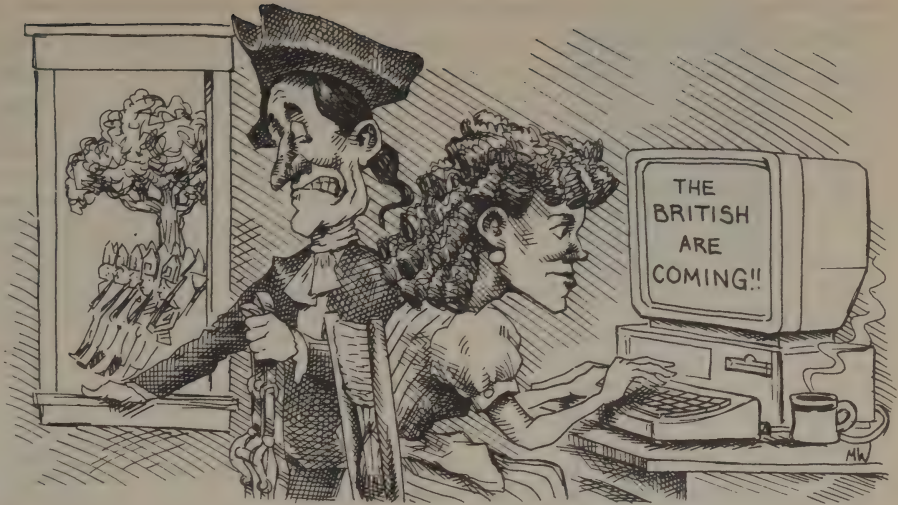
A COMPUTER CONFERENCING system is a more capable and powerful version of a BBS, but the principles are very similar. The central computer for a conferencing system is more powerful, and the software it uses more sophisticated, than the kind used by most BBS systems, and it is usually capable of communicating with several (or several hundred) telephone lines at the same time. The central computer stores, structures, and displays public discourse and handles private electronic mail among groups of people that number from a few hundred to several hundred thousand. The WELL, for example, has about 5,000 members, and there are usually

the same time, and think of the quality of work that is done when people are watching a clock. Although there is no substitute for face-to-face encounters when people need to get to know one another or engage in debates that might require minute-to-minute diplomacy, online meetings have several virtues: people can attend meetings at their leisure, from a place of their choosing, with ample time to ponder what they want to say. Any organization can benefit from the proper use of electronic meetings.

Decentralized work, involving volunteers or paid staff scattered around the county or country, is facilitated at low cost by appropriate use of computer conferencing. Coordination of political or lobbying activities in a timely manner also can be facilitated (see the article about PeaceNet and EcoNet on page 20). Specific organizational goals, such as fundraising management, constituent or client communications, political reconnaissance, strategy planning, crisis management, technical support, can be leveraged by knowledgeable use of computer conferencing services. Computer conferencing is not a panacea, but it can be a powerful tool; the key, as with any tool, is to learn how best to use it — and when not to use it.

The powerful computers that run conferencing systems, and the attendant software, are expensive enough right now to be out of reach of most small organizations (although these costs are dropping steadily, which means the situation will change in a few years), so it is usually necessary to subscribe to a service that charges by the month or the hour. The listing at right gives examples of a few such services.

With the power of computer-mediated communications, it is possible to expand dialogue, to show people that individuals can be effective, and to organize groups of strangers into communities. There are few more important tasks at every level, from the neighborhood to the planet, in the days ahead. □



Resources

Books:

Alfred Glossbrenner, *The Complete Handbook of Personal Computer Communications: Everything You Need to Go Online With the World* (St. Martin's Press, New York, 1985).

Alan Green, *Communicating in the '80s* (The Benton Foundation, 1776 K Street NW, Washington, DC 20005).

Mary Gardiner Jones and Nancy Chasen, *The Potential of Telecommunications for Nonprofit Organizations* (Consumer Interest Research Institute, 1631 Suter's Lane, Washington, DC 20007).

Amalio Madueno, *Computers for Neighborhoods* (The Community Information Exchange, 1120 G Street NW, Washington, DC 20005).

Samuel A. Simon and Michael J. Whelan, *Phonewriting: A Consumer's Guide to the New World of Electronic Information Services* (Telecommunications Research and Action Center, Box 12038, Washington, DC 20005).

Electronic Mail Systems:

MCI Mail (e-mail, fax, telex) 1111 19th Street NW, Washington, DC 20036; 800/444-6245. Annual fee: \$35. Electronic mail: 45 cents for 500 characters; 75 cents, 501-2500 characters; \$1, 2501 to 7500 characters; \$1 each additional 7500 characters. Telex: per minute of transmission. Fax: 50 cents first 1/2 page; 30 cents each additional 1/2 page.

Computer Conferencing Systems:

CompuServe Information Service (conferencing and e-mail) — Customer Service Ordering Department, Attn.: Operator 281, Box L-477, Columbus, OH 43260; 800/848-8199. Membership: \$39.95 plus \$3 shipping/handling; specify computer. \$12.50/hour; 21 cents/minute. \$2/month support fee after 2nd month.

Echo (East Coast Hang-Out) (conferencing and e-mail) — 97 Perry Street/Suite 13, New York, NY 10014; 212/255-3839 (voice), 212/989-8411 (data). \$18.95/month unlimited use (\$9.95 for students and seniors).

The Meta Network (conferencing and e-mail) — Metasystems Design Group, Inc., 2000 N. 15th Street/Suite 103, Arlington, VA 22201; 703/243-6622 (voice), 703/841-9798 (fax). \$15 setup fee; \$20/month.

Portal System (conferencing and e-mail) — 10385 Cherrytree Lane, Cupertino, CA 95014; 408/973-9111. Menu interface service: \$19.95 membership; \$10/month, unlimited use. UUCP connection service: \$34.95/month; \$1.95/hour connect; unlimited support offered at \$95/month.

The WELL (conferencing and e-mail) — 27 Gate Five Road, Sausalito, CA 94965; 415/332-4335 (voice), 415/332-6106 (modem). Membership: free to credit-card customers, \$25 otherwise. Monthly fee: \$10; use fees \$2/hour, billed by the minute. ■

Media Technology and the Vote

Another sourcebook on politics and communication technology that grew out of a colloquium organized by the Annenberg Washington Program. Nonpartisan, wide-ranging, and full of juicy footnotes and bibliographies. More issues than answers, suggestions for research that needs to be done, and lots of case histories by political-campaign professionals about the ways new technologies are changing the electoral process.

—Howard Rheingold

We have a package that can take a map of any scale and overlay data onto it — take an existing database and throw it into the map. The geographic analysis that we can do will help with (1) finding out where particular points are in a political campaign's database, (2) overlaying this database onto actual maps and seeing what it means; and (3) comparing the geographic relationships among different sets of data. Thus, we can facilitate redistricting because the computer can now draw experimental boundaries and tell us what those boundaries mean. We can then shift the boundaries as desired.

Users can quickly modify a boundary on the screen and ask, "How does this affect the density of a certain age group, party affiliation or ethnic group?" Then they can shift the boundaries again and repeat the

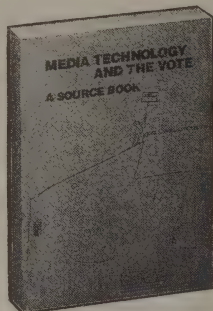
calculations. The significance of tables of figures also can be easily grasped when they are displayed geographically.

MapInfo can work with multiple layers of data. On a street map of a city we can display points representing the location of voters, and in addition, show boundaries. We can display up to 50 layers of data and independently turn any of them on or off. We can also zoom in or out of any area, giving the user detail ranging from a neighborhood to the whole country. In this way one can see the "nitty-gritty" — where each voter lives, his or her party affiliation, race, sex or age — or zoom back and see the summary of the data for a county.

Media Technology and the Vote

Joel L. Swerdlow, Editor.
1988; 240 pp.

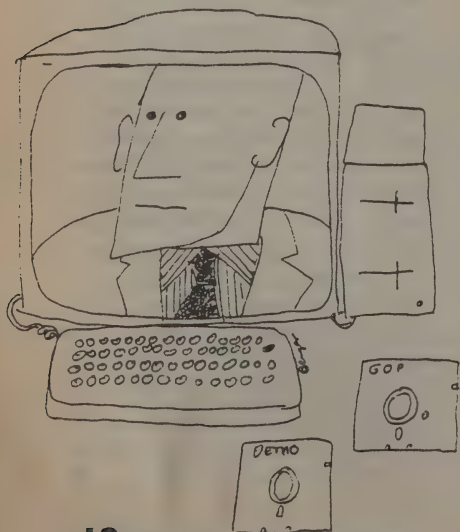
\$18.50 (\$21 postpaid) from Westview Press, 5500 Central Avenue, Boulder, CO 80301; 303/444-3541



New Communications Technologies in Politics

This collection of papers asserts that, to be effective, local political campaigns must adopt the technologies of direct mail, computer conferencing, and market-polling software. Case studies analyze the successes and problems encountered when campaigns did so. —Kevin Kelly

[Suggested by Robert Horvitz]



Without the computer, the success of grass roots lobbying would not be possible. Where we once compiled lists manually from paper directories, we now purchase brokered lists on computer tape and merge them, letting the computer determine the "strength" of a name based on the frequency of its appearance. At the same time, duplicate names are eliminated.

Eventually, more and more voter registration lists will be available on computer tape, and that will give us an even greater targeting capability.

Instead of manually entering ID numbers to identify a potential participant, a bar code will be entered with a wand band, much like that currently used at the grocery checkout counter. Such a procedure will virtually eliminate the already miniscule .005 percent current error rate.

Other changes are ahead. Computers have made paperless phone banks possible: phone list, book, tally sheet and message will all be on a video display terminal. The computer dials the phone, so the telephone worker will not waste any time with disconnects or misdialled calls. Today 60 percent of our telephone efforts are wasted on that kind of erroneous call — despite the impressive percentage of volunteers per contact we achieve.

The Complete Electronic Bulletin Board Starter Kit

The Starter Kit not only explains how to set up a BBS with IBM-compatible computers — it also includes a disk with reasonably powerful BBS software. Detailed and comprehensive how-to information regarding the physical and social aspects of starting a BBS.

—Howard Rheingold

[Suggested by Matthew Rapaport]

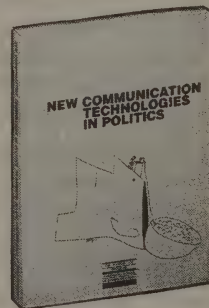
Tom Mack says three factors determine a successful bulletin board system and all of them concern either the nature of the information or the kind of people who need it. He says a BBS is the unique tool for the job when:

1. The people needing the information are geographically dispersed.
2. The information itself is complex — perhaps technical, or lengthy, or detailed — and when accuracy is important.
3. When time is an important factor, either in the value of the information or the availability of the people who need to share it.

Don't depend solely on other BBSes to spread the news; other media may also be

In the next two decades, there will be new levels of addressability. Eventually, two-way cable like the experimental QUBE program in Ohio will spread throughout the country. By videotext, direct-satellite broadcast, or cable, you will be able to go to a cable channel and broadcast a message directly into the home.

As our process and methods get more sophisticated, the issue of privacy could become more significant. The public must eventually decide what information we — both commercial and political communications consultants — have a right to know, and what information will remain "behind closed doors."



New Communications Technologies in Politics

Robert G. Meadow, Editor. 1985; 145 pp.

\$15 postpaid from Annenberg School of Communications, 1455 Pennsylvania Avenue NW/Suite 200, Washington, DC 20004

Here in West Virginia, we have several RBBS-PC installations up and running. On most, callers are greeted by a very familiar menu:

```

RBBS-PC MESSAGE SYSTEM
-----
--- COMMUNICATIONS --- --- UTILITIES --- --- ELSEWHERE ---
PERSONAL MAIL      SYSTEM COMMANDS
[E]nter a Message [A]nswer Questions [H]elp          [D]oors Subsystem
[K]ill a Message  [B]ulletins          [J]oin Conferences [F]iles Subsystem
[P]ersonal Mail   [C]omment              [V]iew Conferences [G]oodbye
[R]ead Messages  [I]nitial Welcome     [X]pert on/off    [Q]uit to other
[S]can Messages  [O]perator Page       [?]List Functions [U]tilities Sub-
[T]opic of Msgs  [W]ho else is on     [L]ibrary         system
                                           [D]ownloads
  
```



The Complete Electronic Bulletin Board Starter Kit

Charles Bowen and David Peyton, 1989; 436 pp.

\$39.95 (\$42.45 postpaid) from Bantam Books/Direct Sales, 414 E. Golf Road, Des Plaines, IL 60016; 800/223-6834 (or Whole Earth Access)

By now, we know this old boy quite well. The standard menu, the one saved on your disk as MENU2, is used on RBBS-PC installations throughout the world.

interested. If your board is devoted to a specific hobby or profession, perhaps a magazine covering the same subject might print a notice. Even though BBSes have been around for a while, they are a new concept to many people, especially non-computerists. As a result, these same magazines might even be interested in writing a feature story about your system if you sell the editors on the idea that this is something unique for their readers.

And you might not have to go to a special-

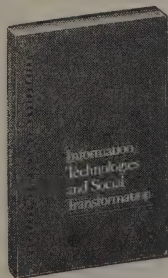
ized publication. Many small communities still don't know about BBSes and the creation of one in the area might be judged newsworthy by a local newspaper. If you believe your board is the first for your town, contact an editor at your local newspaper to report what you have and what it does. Be patient; it may take some explanation about the nature of computer communications. Invite a reporter over to see the board in operation and suggest that the decision on whether to write a

feature be delayed until he or she has seen it do its stuff. You'll probably have a better chance of selling this story to a general-readership newspaper if you are using the board for some purpose that's easy for readers to grasp. In other words, look for the editor to say "no thanks" if you say your system is devoted exclusively to the Pascal programming language or some other topic that's easily judged to be of limited interest.

Information Technologies and Social Transformation

John Mayo's essay on infotech trends and the physical limits that constrain them, and Anne Branscomb's on property rights in information, are two of the best overviews available on these important subjects. Also includes fine chapters on infotech in the home, the future of social hierarchies, and computers in business.
—Robert Horvitz

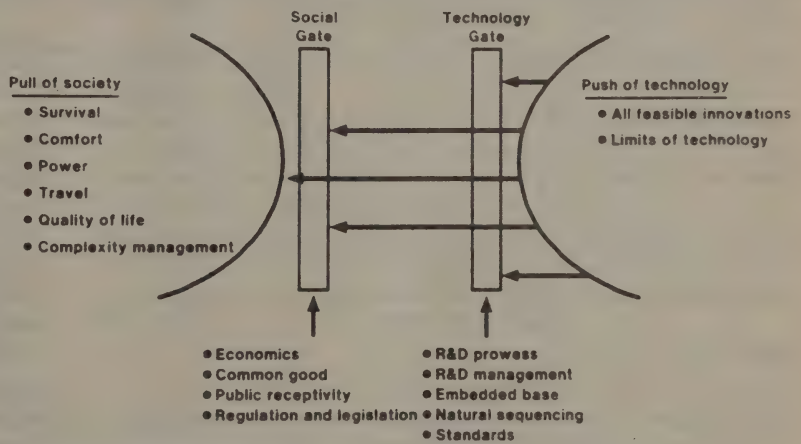
That you or I can own a fact or an idea,



Information Technologies and Social Transformation

Bruce R. Guile, Editor. 1985; 173 pp.

\$14.95 (\$17.95 postpaid) from National Academy Press, 2101 Constitution Avenue NW/P. O. Box 285, Washington, DC 20055; 202/334-3313



The flow of innovations into society.

that a message of any kind belongs to a person or a corporation or a government, is (for reasons already cited from Colin Cherry's work) rather a peculiar notion to begin with. The person from whom you got the message did not lose it; any right you acquire by receiving it is at best shared with the sender, the carrier, and often a good many other nosy people who are privy to it. Even if you paid to get the message (if, for example, it was a piece of research you hired someone to do), or if someone paid to get it to you (a friend who sent you a cable, a company that sent you a commercial), it was the assembly or delivery service, not the information contained in the message, that was paid for.

The researcher could not own the facts and ideas that she or he strung together for your use, and neither can you, even if you use them as your own.

It is a characteristic of our evolving civilization that we are developing an increasing respect for the individuality and privacy of every human being in addition to a recognition of proprietary rights in real estate and other material possessions. Therefore, it follows logically that we will also evolve a body of law to protect information about ourselves as well as information concerning our corporate enterprises and public institutions.

More Power for Nonprofit Organizations: CompuMentor

By Daniel Ben-Horin

THE COMPUMENTOR PROJECT began four and a half years ago when I couldn't get my new 24-pin printer to print envelopes without smudging. I had just started logging onto the Whole Earth 'Lectronic Link, or WELL, so I posted my printer question in the IBM conference. The answers I received were not only informed but also profuse, open-hearted, full-spirited. The proverbial thought balloon instantly appeared. These computerites on the WELL wanted to share their skills.

According to Daniel Ben-Horin, founder of CompuMentor, "Nonprofits do the work that keeps society going. They take care of problems and aspirations that can't be reduced to profit-making equations, everything from the arts to taking care of the homeless." Nonprofits usually are underfunded and understaffed, however, and most nonprofit workers are so busy doing their community work that they rarely have time to learn how to use computers to enhance their effectiveness.

Five years ago, I watched the seed of a solution to both these problems germinate on the WELL when Ben-Horin started the nonprofits conference. Today, CompuMentor is branching out into a nationwide network. On the WELL, you can find out how to take advantage of this resource by typing *g non* at the *Ok* prompt.

Daniel Ben-Horin can be reached via electronic mail at dbh@well.sf.ca.us; CompuMentor can be reached via telephone at 415/512-7784, via fax at 415/512-9629, or via "snailmail" at 89 Stillman Street, San Francisco, CA 94107. A version of this article appeared in the *San Jose Mercury News*. —Howard Rheingold

I had recently spent more than four years as ad director of Media Alliance of San Francisco, where I had started a technical assistance facility called Computer Alliance. Computer Alliance offered training to nonprofit groups and individuals who traveled to Fort Mason in San Francisco for instruction. From various conversations with nonprofit organizations, as well as my own experience as a fledgling computerist, I knew how easy it is to take a great class and then forget a crucial part of the lesson on the drive home.

My own learning had really commenced when my next-door neighbor expressed a willingness to help me whenever I needed him. And I needed him frequently. Now, here on the WELL was a whole community of helpful electronic next-door neighbors.

Of course, few nonprofit organizations are on line with their personal computers. Was there a way to connect the online computer guides with the nonprofit organizations that needed guidance? I sent a flier ("Do you need computer help?") to 30 nonprofit organizations, 18 of which responded, "You betcha and how." Then, on the WELL, I started asking folks if they wanted to adopt a nonprofit organization. A dozen folks said they were willing to visit nonprofit organizations as computer

mentors. In addition, two dozen more said they would be glad to handle phone queries. One WELLbeing suggested we call the project ENERT — for “Emergency Nerd Response Team” — but we opted for the more bland CompuMentor.

The result is that by December 1990 we had built up a database of 668 volunteer mentors and had set up 968 matches with 446 nonprofit organizations. Our mentors aren’t necessarily on line, but we still use the WELL as our “office.” We use the WELL to maintain a record of every group helped and, when needed, to conduct an online discussion of how to solve particular problems.

We never need to send more mailings to nonprofit organizations. They hear about us through word of mouth. Even with someone working full time on “match-making” mentors and organizations, we can’t handle all the requests and have had to set up a waiting list. We’ve developed a “phone bank” that serves as an adjunct to on-site visits and helps dissolve the waiting list.

What kind of nonprofit organizations use CompuMentor and what do they use us for?

DES-Action of San Francisco, a support group for people who suffer ill effects from the drug DES, was going nuts with a donated computer system that is no longer sold on the market. One of our first mentors to volunteer from the WELL, “Mo” Weitman, guided them into purchasing a Macintosh, transferred their mailing list from the outdated computer, and trained them in computer literacy. “Mo was truly amazing,” Pat Cody, Program Director of DES-Action, told me. “Not only did he spend hours creating programs for us, but he patiently taught us how to use them, and get the most out of our computers. If we’d had to pay market rates for his services, it would have cost \$10,000.”

The Women’s Refuge in Berkeley, a battered-women’s shelter, needed some hand-holding to get up and running on its computer system. One CompuMentor staffer, WELL volunteer Ann Herrick Corley, said, “The director and several staff members have started using various software products loaded on the hard disk, even though we haven’t had much training on them. I was



David Sovulewski

Girls enjoy using computers at the Boys and Girls Club of the Peninsula, where mentor Ed Williams showed them how much fun using computers can be.

What kind of nonprofit organizations use CompuMentor, and what do they use us for?

so proud of her because she no longer has any fear.’

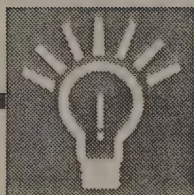
California Rural Legal Assistance in Sacramento needed to transfer data from an old-style CP/M system to a new Mac. The group had no success until a CompuMentor volunteer stepped in. The mentor turned the database into a computerized Rolodex.

San Francisco Suicide Prevention had been futilely trying to find support to help them use dBase II. As fate would have it, we received a call from David Wright, a database expert who specified that he would like to volunteer with groups focusing on the prevention of suicide.

St. Anthony’s Padua Dining room in Menlo Park relies heavily on donations of food and on volunteer helpers to prepare and serve hundreds of meals each week for poor and homeless people. Mentor Wiley Simonds set up a computerized inventory system that enabled the dining room to more accurately track what food is available. With the resulting reduction of wasted food, the dining room is able to serve more meals with the same donated amounts.

Community Boards arranges mediation of disputes — an alternative to taking your neighbor to court. Board members interview both litigants; if the litigants both agree, they appear before a panel of their peers, who are trained in conflict resolution. Hank Roberts, one of the organizers of the WELL’s nonprofit conference, dug

We found that a basic building block of nonprofit success is the ability to maintain contact with related nonprofits in order to share resources and information for achieving common goals.



SOURCES OF COMMUNITY-ACTION IDEAS

by **Bill Berkowitz**

Bill Berkowitz is a professional community psychologist. He is the author of Local Heroes (Lexington Books, 1987), Community Dreams (Impact Publishing Co., 1984), and Community Impact (Schienkman Publishing Co., 1982), a textbook on community organization.

This article originally appeared in The Community Psychologist, 1990 (Vol. 23, no. 3). —Howard Rheingold

up a modem, visited the Community Boards office, and connected their computer and multiline phone. "I dialed the WELL," Roberts recalled, "heard the local modem and the WELL's modem whistling at each other without connecting. I persuaded Community Boards to buy a separate phone line. That's all it took."

Our initial concept was to help nonprofits solve specific problems by matching them with appropriate mentors. Once CompuMentor was up and running, we realized that nonprofits' computerization problems were hard to separate from the nature of the organizations and their goals; at the same time, we became aware that mentors' skills were much more extensive than showing people how to do quick and dirty problem-solving like moving a block of text in a word processor or converting a mailing list from one format to another.

We started looking at the more general question of how nonprofit organizations develop, and found that a basic building block of nonprofit success is the ability to maintain contact with related nonprofits in order to share resources and information for achieving common goals. With financial support from the Telecommunications Education Trust, CompuMentor started

identifying clusters of nonprofits that could benefit by becoming telecom-linked networks. Then we recruited teams of mentors who, by working together, could address the full range of the nonprofits' computerization needs. One mentor will help a nonprofit learn the basics of word processing or database management, another mentor might help them plug in their modem and use their telecommunication software to go online with the WELL, Peacenet, or Econet, and a third will act as their long-term guide to help them explore the full potential of telecommunication.

We consider ourselves successful when our nonprofit clients ask more questions, not fewer — when people start saying, "Can I do this on my computer?" or "What the heck do you mean I can't do that? Why not?" Questions like those mean our clients have lost their fear and are looking at their computers as tools, and maybe even having fun using them. It's a delight to report that this growth and questioning is perpetually on the upswing — which means we always need more mentors in the Bay Area and, soon, throughout the country. Computerists: you can make a difference; we'd love to hear from you. ■

JUST ABOUT every community in America has at least one exceptional program or service. It could be a school program, or a housing effort, or job-related, or environmental — something homegrown with a special twist. These programs work, and they could work elsewhere. The problem is that their creators have no incentive to export them, and wouldn't know how even if they had. So many good community-action ideas stay shuttered up; eventually, they wither away.

But recently some collectors (mostly organizations) have seen the value of assembling these programs under one roof. They have started clearinghouses and marketplaces for new community ideas.

How can these sources serve your needs? Here are some possibilities:

- They can help you find a program or service idea in a given field that you can implement or modify back home, or bring to the attention of others.
- They can give you names and addresses of program originators you can contact to ask questions and get more detailed information.
- They can supply you with bibliograph-

ical references that lie beyond standard psychology journals and databases.

- Finally, they can open you up to the range of community models already in place, releasing new creativity and energy for addressing local concerns. It can be revitalizing to learn what others have accomplished, particularly since many of the actors here are nonprofessionals.

Two more brief points:

- It's best to telephone for up-to-date information.
- Costs of the more expensive services can be shared, or some local source (e.g., your local government) may already subscribe, or may be persuaded to do so.

CIVITEX (Civic Information and Techniques Exchange). National Civic League, 1445 Market Street/Suite 300, Denver, CO 80202-1728; 800/223-6004 (in Colorado, 303/571-4343); ask for CIVITEX operator.

Over 700 one-page profiles giving details on recent "successful examples of community problem-solving," with local contacts. General topics: health, housing, economic development, environment, human services, education, plus cross-referencing. Computerized. Cost: \$25 per search, open to all, free for members (\$50). Also has referral information on 200 community organizations, and 800 case studies of inactive community projects.

Community Action Network.

American Values, 211 E. 43rd Street/Suite 1203, New York, NY 10017; 212/818-1360.

About 1,000 listings of attempted solutions to "20 critical social problems" and public-relations tools used in such attempts. Much emphasis on use of media. Cost: \$10 for catalog; summaries of solutions listed in the catalog are \$3 each, with a flat fee of \$7 for handling and postage. Also conducts national award competition.

Community Information Exchange.

1029 Vermont Avenue NW/Suite 717, Washington, DC 20005; 202/628-2981. About 300 "analytic case examples . . . in community-based development." Provides strategy and resource information and technical assistance to community-based organizations and their partners on issues including housing, commercial revitalization, business development, employment, health and human services, and historic preservation. Computerized; accessible by modem. Cost: \$75-90 annual subscription fee (includes computer access, newsletters, and bulletins), plus \$25-75 per hour of actual database or staff time use; estimates given. Also has databases (included in above cost) on funding sources for neighborhood projects, technical assistance providers, and community development bibliography; offers print publications, computer bulletin board, conferencing, and customized research.



HUD USER. P. O. Box 6091, Rockville, MD 20850; 800/245-2691 (301/251-5154 in Maryland and DC metro area).

Database of nearly 5,500 documents on housing and urban development. Emphasis on government documents (because it is a government program). Computerized. Cost: \$5 for "standard searches" in any of seven pre-established housing-related topics (one search yields about 30 citations, with abstracts and document order information); \$20 for custom searches. Actual document cost varies. Also produces resource guides, newsletter (free), and audio-visual programs.

Innovations in State and Local Government.

John F. Kennedy School of Government, Harvard University, 79 JFK Street, Cambridge, MA 02138; 617/495-0557.

Print profiles of about 25 innovative state and local government programs per year, based on annual national competition (\$100,000 to each of ten annual winners; over 1,900 applicants in 1991). Includes human services and all other areas of government. Cost: \$10 per yearly booklet of profiles of 75 semifinalists; shorter yearly booklets profiling ten annual winners are free. Also has videocassettes, featuring award-winning programs for each year (\$20-40).

Livability Clearinghouse. Partners for Livable Places, 1429 21st Street NW, Washington, DC 20036; 202/887-5990. Computerized referral service on innovative projects emphasizing quality of life, economic development and social equity in American communities. They maintain a database of all grants awarded by the National Endowment for the Arts for environmental design, a 3,000-title library, and provide access to all past projects of Partners for Livable Places. Contact them for further details.

Local Exchange (LEX). National League of Cities, 1301 Pennsylvania Avenue NW, Washington, DC 20004; 202/626-3180.

Computerized database of "over 2,000 innovative local government programs."

Can give citations or full text. Use requires a PC, modem, and appropriate software. Cost: annual fee of \$150 and up, plus \$20 maintenance charge; \$10-20 per hour for messaging; \$30-40 per hour for database access; payment packages available. Fee includes user manuals, tutorials, electronic mail, multiple bulletin board access, plus access to *Urban Affairs Abstract* and several solution-oriented databases.

LOGIN (Login Information Services).

245 E. 6th Street/Suite 809, St. Paul, MN 55101-9006; 800/328-1921 or 612/225-1133.

Computerized database of over 50,000 items covering "all topics pertinent to city and county governments," including health and human services, housing, drug programs, and community development. Can give abstract or full text. Access requires computer, modem, and phone line. Cost: \$1,000-3,575 annual membership; no hourly fee; discounts negotiable; electronic mail included.

Management Information Service

(MIS). International City Management Association, 777 N. Capitol Street NE, Washington, DC 20002-4201; 202/962-3639.

"A local government inquiry service with more than 10,645 documents." Handles customized inquiries on local government topics. Cost: annual sliding-scale subscription fee starts at \$286; includes unlimited searches, various reports, database updates, and *Municipal Year Book*. Inquiry service also available through Local Exchange (above). ICMA also offers separate statistical Urban Data Service, publications, and training programs.

Social Inventions. Institute for Social Inventions, 20 Heber Road, London NW2 6AA, UK; 011-44-81-208-2853.

Not a database as such, but a quarterly journal listing small-scale social inventions of all kinds. Written for a primarily British audience; there's nothing comparable to it I know of in the US. Cost: \$30 US for annual subscription, which can include Institute membership upon request. Also publishes *Encyclopaedia of Social Inventions* (1989, \$36 US) and *Who's Who of Social Inventors* (free with membership). Sponsors annual social invention contests with cash prizes as well. ■

Computer Conferencing: The Global Connection

by Lawrence B. Brilliant

AS IF IN PAIN, THE HELICOPTER'S JET TURBINE engine screeched sharply, groaned once, and died. Now, silhouetted against the Himalayas, the quiet helicopter began to spiral slowly toward the ground. The passengers, a group of United Nations doctors, looked around furtively as the pilot, his jaw clenched, maneuvered the paralyzed bird down in tight circles.

Lawrence B. Brilliant is one of the original Hog Farmers, a co-founder of the WELL, and the founder of Seva, an international service organization that came about after the successful eradication of smallpox. He went to India as the Hog Farm's "Doctor Larry" in 1970, and stayed on in the Himalayan ashram of his teacher, Neem Karoli Baba, who deputed him to work for the World Health Organization's smallpox campaign. After a decade in India, he became a professor at the University of Michigan, where he first learned about the computer conferencing described in this article. He and his wife and the other founders of Seva then decided to focus their efforts on blindness in India and Nepal, where he now spends most of his time, building eye hospitals and health institutes; he recently pitched in on Wavy Gravy's Berkeley political campaign (*WER* #70), and he is currently assisting his brother with his color-business-card company, Brilliant Color. Seva (a Sanskrit word meaning "service to humanity") headquarters are now in San Rafael, California. This article originally appeared in *Byte*, December 1985. —HR

illustration by Brad Hamann



After a silent eternity, the pilot brought the craft down just outside of Biratnagar in the remote terrain of Nepal.

"What's wrong?" a passenger asked.

"Nothing much," the pilot replied, "but we'll need to file a spare-parts order: 'Engine. One.'"

Under almost any other circumstances, a crippled aircraft sitting on the ground in one of the most remote places on earth would rust long before a replacement engine could be located, airlifted in, and installed. But thanks to the then-new technology of computer conferencing, a worldwide "spare-parts order" was filled swiftly, and the chopper flew out of Nepal only days later.

Here is how computer conferencing rescued that helicopter and the UN project:

The helicopter was on loan from Evergreen Helicopter Company in McMinnville, Oregon. The only "spare" jet engine was in France, at Allouette Helicopter Company. Four additional organizations were involved in orchestrating the "spare-parts order": the United Nations office in New York, the government of Nepal, the World Health Organization regional office in New Delhi, and a Michigan-based international charity, the Seva Foundation, which was funding the project.

Using a computer conferencing system to which several companies in the aerospace industry subscribe, an "electronic forum" was quickly convened. Despite the dif-

ferences in time zones and geographical locations, the participants quickly reached a consensus on who would pay for the replacement engine, how it would be shipped into Kathmandu, how customs duties might be waived on the new engine, how it could be trucked into the remote landing site, and what would be done with the damaged original engine. Telephone tag, internal organizational hierarchies, and diplomatic protocols were dealt with easily, and the meeting lasted less than a day.

This event illustrates a lesson for anyone trying to get things done in complicated organizations. When speed and effectiveness are the issue, nothing surpasses electronic forums for disseminating information to all concerned and making decisions rapidly.

Today, the computer-conferencing revolution is burgeoning, due to three factors: (1) The enormous investment made in the international telephone system in past decades has provided us all with relatively low-cost communication lines. (2) Technology has brought the cost of personal computers within the reach of virtually everyone in modern industrial societies. (3) Increasingly sophisticated software enables individuals to take part in computer conferencing at home, and gives them the option of renting time on worldwide networks.

Until now, organizational culture has been determined by a critical mass of intelligent people in proximity to each other. This has created towns, universities, and tall office buildings. It is why we have Bell Labs and Xerox PARC.

With the advent of electronic meeting technology, the thrust of civilization can now occur without the factor of proximity. The synergism and excitement of a critical mass of intelligent people will remain a factor, but now they need not live or work close to each other. For the first time, engineers in San Diego, New York, Rome, and Hong Kong, all members of a special-interest group, can meet online all year without ever seeing one another. Perhaps, with this technology, we are seeing the realization of Marshall McLuhan's "global village."

The benefits to business are obvious: decision-making is improved by bringing the best minds of a company together without restrictions of time and location; participants can productively enter a meeting after organizing ideas; they can discuss many different subjects in one meeting

without the confusion that sometimes occurs in traditional meetings; immediate printed records of the discussion are available; and spreadsheets, databases, and other productivity tools can be entered into the meeting. With wise use of this technology, the result is increased efficiency.

Computer meeting systems can make a horizontal cut through the standard vertical organizational chart. This distributed electronic organization (DEO), a horizontal stratification of personnel within a company, results in a new and higher quality of interactive group process and organizational decision-making. For the first time, through computer conferencing, we will see communication exchanged on a continuous basis between all the department managers, all the engineers, and all the supervisors, no matter where they are located.

The Seva Foundation, a nonprofit international charity, is a good example of a DEO. It uses electronic meeting systems to allocate its money and make other business decisions. The board of directors' meeting lasts all year and, as a result, the structure of the organization has changed. The executive committee, whose members once flew from various corners of the world for meetings four times a year, has been abolished. Now the entire board is involved on a day-to-day basis with operational decisions, though the members live all over the world.

The impact of these horizontal links within society is still difficult to foresee, but from this free exchange of ideas and information will come new solutions to old problems. ■



With the advent of electronic meeting technology, the thrust of civilization can now occur without the factor of proximity.



The Global Commons

by Brock N. Meeks

W

EEKS BEFORE THE MAINSTREAM PRESS discovered that Saddam Hussein and most of his air force were hunkered down in bunkers built to withstand a nuclear blast, details about the bunkers and their construction were available thanks to a thriving “alternative press” corps. This worldwide group of journalists, using a network called PeaceNet, consistently scooped the major news-wires and networks during the Gulf war.

Brock N. Meeks is a Washington, DC-based investigative journalist. When he's not chasing down stories stateside he reports from assorted war zones for the *San Francisco Chronicle's* foreign service bureau. He is currently working on a book about the geopolitical exploitation of the world's refugee community. —HR

illustration by Brad Hamann

Using PeaceNet as its prime distribution channel, this alternative press corps, cobbled together from the peace movement's own “thousand points of light,” worked tirelessly to provide a different perspective on the war.

PeaceNet is just one of the networks that operates under the auspices of the Institute for Global Communications (IGC). And during the war PeaceNet acted as a corner of the global commons where information is stripped clean of censorship. IGC itself is a conglomeration of networks and organizations, a fabric woven from electronic data-exchange networks — the information-

age equivalent of duct tape and baling wire. In operation since 1986, IGC and its various networks have dealt with issues from saving the rainforests to exposing human-rights violations across the globe. But it was during the Gulf war that IGC's biggest network, PeaceNet, burst on the scene with real impact.

“We went from zero messages on our Middle East conference to having to start five new conferences just to handle the increase in message traffic,” says Howard Frederick, director of PeaceNet.

As the networks stumbled over themselves in search of talking heads and Middle East experts, PeaceNet was busy fielding the comments of hundreds of grassroots experts, mostly members of peace movements who had spent their adult lives working for peace in the Middle East. Suddenly, they found themselves turning to the only central source for information dissemination they could think of, PeaceNet.

“These are the hands-on organizers of the peace movement,” said Frederick. “For the first time in history we’re seeing the creation of the ‘Peace Movement Intelligence Network.’” A central clearinghouse for information about the peace movement, for the peace movement, by the peace movement.

An ominous testament to PeaceNet’s effectiveness was brought to light recently when it was learned that law enforcement agencies, both local and federal, were calling PeaceNet offices and pumping its staffers for information regarding the activities cited by its users. When the staffers began referring all calls to their lawyers, the police started logging on themselves, using PeaceNet to track certain activities and planned activities of peace activists throughout the country. The San Francisco Police Department checked in daily to get advance warning of peace demonstrations.

According to Frederick, the alternative press is going to “pool its efforts, using PeaceNet as its distribution vehicle, to create the world’s largest, most comprehensive source of news and information” of and by members of the alternative press corps.

Recently the fifth-largest news wire service, Inter-Press Service (IPS), signed an agreement with PeaceNet to become a dis-

As the War Goes, So Goes Truth

tribution center for its news stories. The Pacifica radio news service has also signed on with PeaceNet to help distribute the text of its broadcasts. Amnesty International uses PeaceNet to distribute all sorts of reports and “Action Alerts” concerning new and continuing struggles to free political prisoners.

“Within five years we’ll be the world’s largest alternative news source,” said Frederick. Few doubt his word.

Others are creating news services with inspiration and encouragement from PeaceNet. A prime example was *WARNEWS*, a publication that grew out of the frustration and censorship *San Francisco Examiner* columnist Warren Hinckle encountered when he wrote an antiwar piece for the paper.

Hinckle found his inspiration on PeaceNet. He contacted a group of journalists, authors and cartoonists to create the war’s first opposition publication. He chose PeaceNet as the vehicle to electronically distribute the newsletter’s contents (cartoons, charts and graphs excepted).

IPS will scan various conferences that abound on IGC networks and pick up story ideas from the information uploaded by the users. “There’s no better source of information,” says Frederick. “Because we’re getting input from around the globe, from people living and dying in countries that are in the headlines.”

Beyond News

The insights of world correspondents filing stories from war zones are the glitzy, sexy part of PeaceNet. But there is much more beyond the news. There are some 10,000 subscribers worldwide on IGC’s networks. During the Gulf war alone IGC was processing about 30 new subscriptions a day.

PeaceNet is only one network carried on IGC. Other networks include EcoNet (an environmental network), ConflictNet (for those working on family mediation and conflicts), and HomeoNet, which deals with the homeopathic arts. There are also hundreds of specialized groups that marshal their collective resources via IGC networks.

The British American Security Information Council (BASIC), with offices in London and Washington, monitors NATO policy

and weapons development, strategy and planning, important meetings, research, and general peace-movement news relating to NATO issues. Members of BASIC correspond via PeaceNet and keep each side of the Atlantic up to date on NATO activity.

Organizers of the more than 3,400 local nuclear-free zones throughout the world meet on PeaceNet to share information on the creation of other nuke-free zones. National nuclear-free-zone offices post their newsletters here, creating a kind of living database of resources.

Perhaps the most exciting aspect of IGC is the Association for Progressive Communications (APC), which IGC founded. "Back in 1987 IGC helped to develop an international cooperative effort that would link like-minded groups via the computer," says IGC director Geoff Sears. "At the time, the only additional member we had was GreenNet, based out of London." Short pause. "But we've come a ways since then."

Actually, PeaceNet pre-dated IGC. "PeaceNet's been around since '86," Sears says. "IGC was formed shortly thereafter, so in a sense you have a situation where the child spawned the parent."

APC has networks in Canada, Sweden, Australia, Brazil and Nicaragua. And Moscow and Germany will soon be added, says Sears.

Before Americans learned how to pronounce "glasnost," members of PeaceNet were forging ahead with their own plans to open Soviet society through the use of electronic communication. They did this through agonizingly small steps, using "appropriate Soviet channels," as former PeaceNet director Mark Graham says. By hooking up first with Soviet scientists, members of PeaceNet developed a kind of "track-two diplomacy," wherein ordinary civilians began to talk about how to solve the problems of the two superpowers.

Lessons were learned from those early days, when the Soviets could only reach PeaceNet for a half-hour a day under the watchful eye of the KGB. Today those involved in APC have turned track-two diplomacy into an art form. Across the globe, ordinary citizens are bypassing the often mind-numbing bureaucratic red tape and

communicating at the most needed level of all: person to person.

For example, nongovernmental organizations (NGOs) in Nicaragua use their network to share information, not only among themselves, but also among other Central and Latin American NGOs, which use their local networks as gateways into the larger framework of IGC.

Out of the Dark

Yes, the rain forests of Brazil are in peril. But Brazil has other problems. Thousands of homeless children roam the streets of Brazil's major cities. There is no social welfare system to speak of in Brazil. The current answer to Brazil's homeless children problem: vigilante groups simply kill them rather than push the government to house them.

Outrage? Sure. Unnoticed? Hardly. A group known as IBASE (Brazilian Institute of Social and Economic Analysis), which focuses on socioeconomic analysis and deals with just this sort of problem, is one of the first groups to use Alternex, the network installed by IGC in Brazil.

Their success has encouraged other NGOs to follow suit. "Results breed results," says Sears. Until IBASE hooked up with IGC, the NGO was struggling to make efficient use of data communications, "but the weight of paying the 'data freight' internationally was killing them," says Sears. "So we created Alternex."

The collaboration between IBASE and IGC amounts to a multi-host PC-based "store-and-forward" system linked to IGC's international computer network. In July 1989, only a few months after approval of the project, Alternex was operating 24 hours a day. Today, more than 130 individual and group users in Brazil and abroad participate in the network, and this number is increasing daily. Users pay a monthly fee, equivalent to about US\$7.50, which includes one hour of on-line connection. This connection runs approximately \$5 per hour, cheaper than nearly all other electronic mail services.

Track-Two Diplomacy

EcoNet

Just as PeaceNet harbors the frontline troops of the peace movement, EcoNet

is home to groups such as Greenpeace and Global Action Network (GAN).

Environmental groups use EcoNet as a central clearinghouse for information dissemination and discussion. GAN, for example, uses EcoNet as a vehicle for distributing information you can take to the street. Courtesy of GAN you'll find *The Action Guide: A Guide for Citizen Group Action*, online in full text. It's a kind of do-it-yourself "how to fight city hall" for environmental issues.

During the hoopla of Earth Day, EcoNet served as a vital information center for coordinating hundreds of "green days." In recognition of all that work, EcoNet was honored in 1990 by Renew America's "Searching for Success" as the most extensive environmental computer network in the world.

Some would say that the darker side of the environmental movement is "ecoterrorism." Last year during Redwood Summer, a combination strategy session and headquarters for Earth First!, lively debates took place online via EcoNet about the virtues or hindrances of the "monkeywrench" actions encouraged by Earth First!. The conference quickly became a downloadable "do-it-yourself" manual on ecoterrorism.

If all this sounds like a group of radicals romping through the ethernet, here's a counterpoint: US and Canadian state and provincial fish-and-game administrators, major colleges and universities involved in wildlife conservation hang out on EcoNet. These users discuss conservation and environmental protection, national forests, parks, seashores, wildlife refuges, Bureau of Land Management districts, conservation offices of foreign governments, and sources of audiovisual materials, periodicals and directories.

IGC's mission is "to spread technology and information equally among as many as possible": the info-rich giving to the info-poor. "It's more like sharing with the 'info-poor,'" says Sears. "We're very careful not to perpetuate the 'U.S. knows best' stereotype. There's a lot of things we can learn by watching how [third world countries] use computers and information."

But does a computer network help the

farmer in Burkina Faso to improve his life? When Sears is asked this question he barely flinches, and answers: "It doesn't." And he leaves no room for follow-up questions. He's shifting gears, maneuvering the conversation. He acknowledges that the technology is out of the reach of most; computers are still expensive.

"Is [price] really a problem or just an obstacle to hurdle?" asks Sears, and he launches into a sound bite: "You have to think of IGC as being close to the top of an 'information chain.' The networks support grassroots NGOs. The computers help them do their job, which is to help people. The networks are an augmentation, not some kind of miracle drug. Bottom line, people still have to do the work, still have to get out into the field. But now they have better information, they get it faster, and can share it internationally."

Listen to the Children

If there is a sobering, stabilizing focus in these troubled times, it is the thoughts and comments made by children. They hear from the adults that our world is on the verge of eco-detonation, and they fear that one day the air will simply "dry up." And they hear of war: bombs dropping, chemicals that kill. And they wonder, "Will I die?"

They ask questions that cannot be ignored. Is there a place for the children here? They are the next generation of activists; they will inherit a legacy of greed and complacency.

Recently, this letter, written in a childish hand, found its way to IGC:

Dear PeaceNet,

We are a group of 5th and 6th grader gifted students who attend a magnet school in Miami, Fla. We are (through class discussion and projects) learning about how to become peacemakers. In our gifted center we have already learned a lot about becoming peacemakers, such as, being aware of what is going on in the world, and being open minded; however, we would like more information. Could you please send us some information on becoming peacemakers. Thank you.

Sincerely,

Future Peacemakers of America

So it goes: track two, second generation. Right on schedule. ■

Dirt Farming Via Computer



Electronic City Hall

by Michele Wittig

illustration by Brad Hamann

W

HAT HAPPENS WHEN "CITY HALL" allows citizens to communicate with each other, city staff, and city officials on an electronic bulletin board from home, office, and public terminals? Santa Monica, California, residents have been answering that question with their Public Electronic Network (PEN), now in its third year of operation. The stated intention of city officials who agreed to this experiment in electronic democracy was to broaden citizen participation in political and community life. Whether this increased participation will be allowed to influence city policies is about to be seen, as PEN faces its first major test.

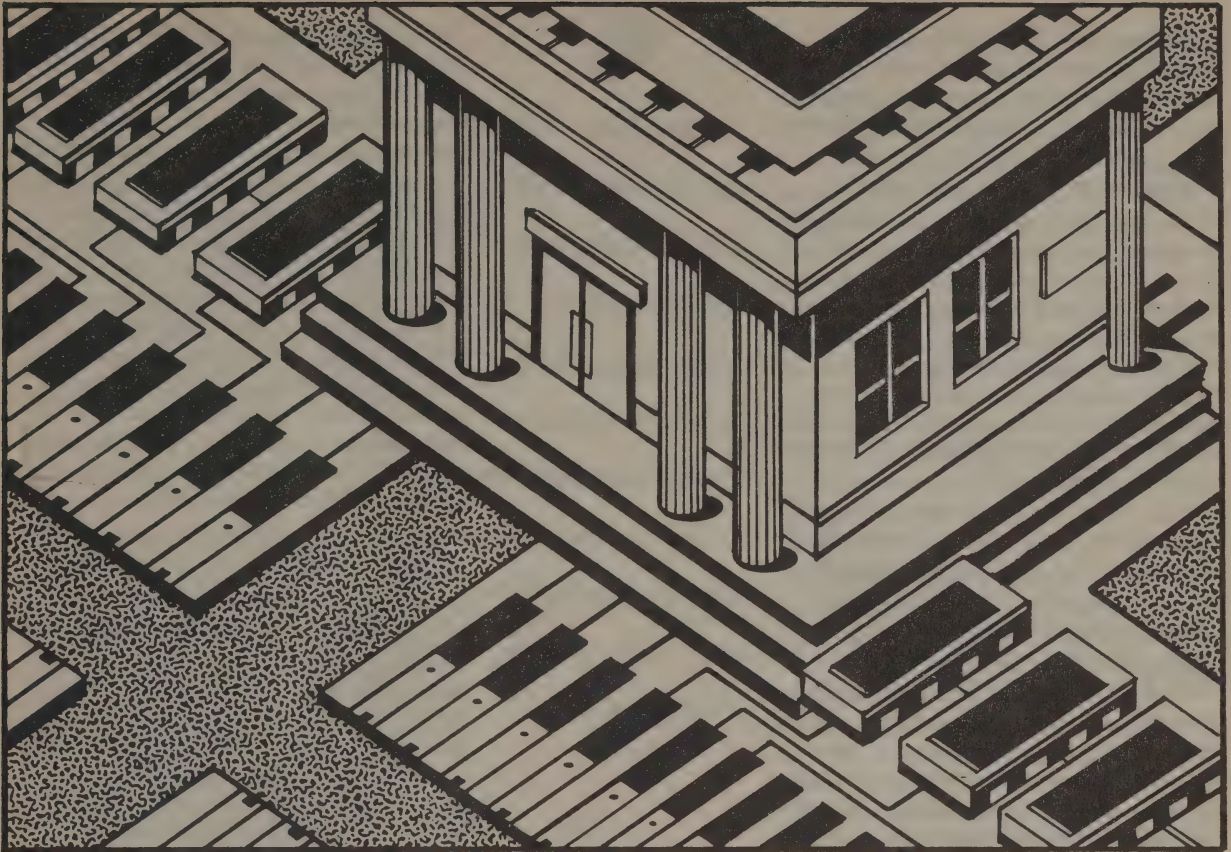
Lisa Carlson is the Janey Appleseed of computer conferencing. I realized how ubiquitous she is when I visited a town in Japan, an hour's flight from Tokyo, logged onto the English-language section of the local conferencing system, and found Lisa there. She works for Metasystems Design Group, which has set up conferencing systems all over the world. One of Metasystems' clients, the City of Santa Monica, set up an "electronic city hall," and Lisa pointed me toward this article.

Michele Wittig is past chair of the People's Electronic Network Action Group, co-chairs the SHWASHLOCK project, and chairs the Santa Monica Commission on the Status of Women. She teaches graduate research methods and statistics in psychology at California State University, Northridge. —HR

In the summer of 1989, the Santa Monica City Council was presented with the first proposal from residents who participate in the network. The citizens dubbed their proposal SHWASHLOCK, an acronym for a program to provide early-morning showers, laundromat tokens, and lockers to homeless residents, along with a job bank.

The development of this proposal has elicited intense interest among city officials, the chamber of commerce, and neighborhood associations. The PEN Action Group's proposal addresses what a Santa Monica Chamber of Commerce survey deemed "the city's number-one problem."

For those interested in the uses of teleconferencing, the Action Group provides a case study of community organizing. Unlike electronic conferencing among employees in government agencies, universities, or companies, or among hobbyists who join commercial bulletin boards to gain access



to those with shared interests, PEN has made its debut as a means of communication among people having no more in common than that they live in the same eight-square-mile patch of suburban Los Angeles County.

Political Background

Residents of this city, 80 percent of whom are renters, made political news in the early 1980s when they passed one of the toughest rent-control ordinances in the country. The renters'-rights movement also ushered in a city council that espouses the principle of broadening the base of citizens who can influence city hall decisions. Putting that principle into practice has been difficult.

The PEOPLE's electronic network (a nickname which appeals to graying political activists who settled here in the sixties) constitutes a kind of test of the forms of participation that city staff and elected of-

For those interested in the uses of teleconferencing, the Action Group provides a case study of community organizing.

ficials will allow ordinary citizens who participate in the network. Will citizen participation be limited to the recommendation phases of the political process, or will it encompass setting priorities and implementing policy?

Homelessness provides the issue for this test. During the past decade, the homeless population has become more numerous and more visible. Hundreds line up each afternoon to receive a free dinner. The city attorney, meanwhile, has been criticized for his leniency in prosecuting panhandlers and transients who sleep in the parks.

The Network as a Tool for Community Organizing

Intrigued by the possibility of increasing citizen participation in civic life, the city launched PEN in February, 1989, by distributing free user accounts to residents who register with the city. These accounts can be used from one's home or work terminal, or from one of dozens of public terminals

in libraries, schools, and city buildings. Citizens can participate in three ways: 1) read-only boards posting city information; 2) private e-mail between citizens or between citizens and city hall, and 3) public postings in any of six teleconferences.

These public conferences span a wide range of issues. Popular conferences include Crimewatch (run by the police department), PENhelp (online hints on how to use the system), Planning (a forum about land use, zoning, and development), Environment (incorporating discussions of air quality, water pollution, and recycling), and Santa Monica (including rent control, neighborhood organizing, community events, and news of boards and commissions). Social issues are discussed in several additional conferences. Topics include nuclear weapons, drinking and driving, the media, abortion, gun control, foreign policy, health, intergroup relations, Jewish culture, AIDS, human rights, sexism, and racism.


Most PENners seem to be content to use the system to inform themselves or others, or to debate current issues without taking any other action. But the potential of this local system to be a catalyst for political action is illustrated by those users who organized the PEN Action Group in July, 1989. When this group began to meet face-to-face as well as online to consider possible community projects, it was soon decided that the issue of major concern to most was homelessness.

Members of the PEN Action Group communicate with each other in two major ways: online in the Homeless teleconference (in which hundreds of citizens have posted thousands of responses) and in person at monthly meetings. Several homeless PENners are among the two dozen residents who regularly participate in the face-to-face meetings.

SHWASHLOCK

One evening in August, 1989, Santa Monica artist Bruria Finkel posted an idea for closing the gap in existing services for the homeless. She called her idea SHWASH-LOCK. Conversations with homeless residents online verified that an early-morning shower, clean clothes, and a place to store one's belongings are essential if the homeless are to get, and keep, jobs.

To educate themselves, members of the



The only public showers reliably available before noon were cold-water showers outdoors on the beach. Hot showers in public parks were not open until noon, making it difficult to shower before going to or seeking work.

PEN Action Group made site visits to local social-service agencies and met with leaders of the social-service community. They learned that the only public showers reliably available before noon were cold-water showers outdoors on the beach. Hot showers in public parks were not open until noon, making it difficult to shower before going to or seeking work. There was one free laundry service, but it required clients to give up the clothes they were wearing in return for clean clothes from a community rack. No lockers were available because service providers did not wish to "police" their contents. Once these gaps in services were identified, the PEN Action Group decided to lobby the city to fill them.

The group soon found that there was no consensus in the community for providing the services. Some objections were dealt with by revising the proposal. For example, an initial location for a facility elicited opposition because it was adjacent to a high school. When the group was unable to raise the funds necessary to lease the building, it decided this was a blessing in disguise and decided to pursue an interim plan of decentralized services. While the long-term goal of the group is to build or remodel a center in which these services are integrated with a job bank, the group decided that, in the interim, existing facilities should be adapted and made more accessible.

Another stumbling block arose when the local coalition of social-service providers expressed unease over the threat that the new group would be competing with them for scarce social-service dollars. To allay this fear, the group decided not to seek funding for itself, but to raise funds for an existing social-service agency, which agreed to administer the laundromat voucher program. Other objections were debated vigorously online, but did not result in changes in the original conception. For example, the group persisted in its resolve that the homeless should not be required to show evidence of job-seeking in order to qualify for a shower, laundry voucher, or locker.

Although over \$5,000 in private funds has been raised to initiate a laundry voucher system which will pay for 4,000 loads of laundry, so far only one laundromat is participating in the program. Nevertheless, its owners are enthusiastic and have expanded the hours during which vouchers are accepted from homeless clients, who obtain them at a local social-service agency.

A breakthrough occurred when a city council member put the group in touch with a locker manufacturer, who agreed to donate 30 lockers to the city, free of charge, for a seven-month trial period.

In May, 1990, the PEN Action Group's ten-page proposal was formally presented to the city council, resulting in a feasibility study. The following month, the council allocated \$150,000 to install lockers and showers at the restroom facilities under the Santa Monica Pier. The city has also agreed to open other public showers at six a.m.

The homeless themselves have emphasized the need for a cooperative job bank, listing employers who are willing to hire the homeless and provide them with bus fare, lunch money, daily or weekly pay, etc. The network will be used to solicit and post job listings, for perusal by anyone on the system. A homeless drop-in center staffed by job counselors has been equipped with a PEN terminal for this purpose. Two local graduate students have earned course credit for soliciting job listings from local businesspeople, interviewing job applicants, monitoring the job-placement effort, and evaluating the effectiveness of the program.

KIDS-91: A Global Electronic "Hole in Space"

With the SHWASHLOCK project under way, the PEN Action Group began to consider developing a second project. Criteria included use of the network, attracting new and different online participation, and community service. Kevin McKeown, a member of the Electronic Networking Association, suggested that Santa Monica become a participant in KIDS-91, an international effort begun in Norway to enroll schoolchildren, ages 10 to 15, around the world in electronic communication. The proposal was greeted with enthusiasm online and in the PEN Action Group's monthly face-to-face meeting at the city library. Coincidentally, PEN users and staff had been enrolling local schools on PEN. By the time KIDS-91 was proposed, a dozen classes at several public schools had been connected to PEN, each with its own school-based conference. With the advent of KIDS-91, more teachers are signing their students onto the system, so that the children's post-



The council allocated \$150,000 to install lockers and showers at the restroom facilities under the Santa Monica Pier. The city has also agreed to open other public showers at six a.m.

ings can be transmitted by McKeown to other KIDS-91 groups in Eastern and Western Europe, the Soviet Union, Japan, and North and South America.

On May 12, an electronic "hole in space" transmitted images of the children on the network from a dozen sites around the globe to and from the children at the other sites, on large screens. The city council, school district, and arts commission endorsed the project and committed funding and staff time to make it a success.

Group Process

Because some of the PEN Action Group's decision-making occurs on line, and all of the agendas and meeting minutes are posted on the network, it has been easy for anyone with a PEN account to observe the process by which the group has developed its proposals and to participate in the decision-making. The group has succeeded in finding a middle ground between disclosure and exposure of its plans, knowing that most of city hall, the school board, the chamber of commerce, and a cross-section of citizens are watching, if not participating in, the process. The free publicity attendant on access to the system has served the group well so far.

The city has succeeded in providing a mechanism for exercising citizenship beyond casting a ballot in a voting booth. It appears that city staff and city council are willing to act on recommendations emerging from the PEN Action Group. It's clear that two dozen residents have learned how to make their voices heard — electronically — in the halls of city government. ■

Santa Monica Public Electronic Network (Kevin Phillips, Director): Information Systems Department, Santa Monica City Hall, 1685 Main Street, Santa Monica, CA 90401; 213/458-8383.

PEN Action Group (Randy Woodland): 1023 Ocean Park Boulevard #4, Santa Monica, CA 90405; 213/396-5417.

SHWASHLOCK (Michele Wittig): Department of Psychology, California State University, Northridge, CA 91330; 818/885-2827 (mwittig@vax.csun.edu).

KIDS-91 (Kevin McKeown): 848 16th Street #E, Santa Monica, CA 90403; 213/393-3639.



Conscious Democracy Through Electronic Town Meetings

by Duane Elgin

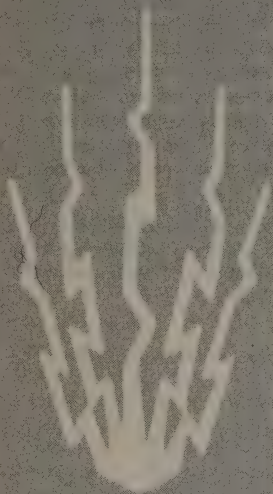
DEMOCRACY HAS OFTEN BEEN CALLED “the art of the possible.” If we don’t know how our fellow citizens think and feel about issues, then we don’t know what is possible — we float powerless in a sea of ambiguity and are unable to mobilize ourselves into constructive action. When we don’t know how others think and feel about various options, then the political process can be easily manipulated — and this is the condition in which we now find ourselves. The most powerful and direct way to revitalize our democracy is by improving our ability to know our own minds as a community of citizens.

Duane Elgin is the executive director of “Choosing Our Future” (P. O. Box 820, Menlo Park, CA 94026). He is a former senior social scientist with SRI International, the author of *Voluntary Simplicity* (William Morrow, 1981), and a contributor to *WER/CQ* (#31). —HR

illustration by Brad Hamann

Given that we can trust the wisdom of the citizenry, the challenge is to find a way to regularly pool the good judgment and foresight of the public.

To cope with problems of massive scale — environmental pollution, resource depletion, species extinction, etc. — citizens must communicate at a level equal to the challenges we face. Because less than one percent of the U.S. population uses computer bulletin boards, these networks have not yet grown to a sufficient scale to support the level of citizen dialogue and consensus-building required by our times. So what practical tools do we have that can genuinely enable a democracy to become conscious of its views — to “know its own mind?”



A key question is whether we should trust the wisdom of citizens to guide our democracies into the future. An important insight into this question emerged from George Gallup, who reviewed his experience in polling American public opinion over half a century and found the collective judgment of citizens to be "extraordinarily sound." Gallup discovered that citizens are often ahead of their elected leaders in accepting innovations.

Television dominates the social awareness of developed nations. In the U.S., at least 98 percent of all homes have a TV set, the average person watches more than four hours per day, and most people get a majority of their information about the world from television. Television has become the social brain or central nervous system of modern societies. The challenge is to devise ways of using this already immensely powerful technology in ways that serve the communication needs of a conscious democracy.

Unscientific "people polls" are now common on television. However, this approach to two-way television has critical shortcomings. Typically, anyone watching a television program can vote "yes" or "no" on an issue by dialing a number shown on the TV screen. By opening feedback to all viewers, it often takes an hour or more to get a single response, and then there is no assurance that the feedback is representative of the views of the overall public; instead, it may only reflect the views of a special interest group that invested the time and money to call. This crude barometer of public sentiment is not sufficiently fast or trustworthy to meet the needs of a modern democracy.

For a conscious democracy to function, citizens and decision-makers must be able to obtain an accurate and trustworthy sense of overall public sentiment. Also, feedback must be fast enough to enable citizens to give more than a one-time, kneejerk response to an issue during an hour-long program. We need processes that enable citizens to answer multiple questions that test the strength, texture, depth, and intensity of public sentiment on critical public-policy issues.

We can obtain rapid and representative feedback by gathering responses (via telephone-based, dialed-in voting) from a preselected, scientific sample of citizens. Just as a doctor can take a very small sample of blood and use it to acquire a highly accurate picture of the condition of your entire body, we can similarly use random or scientific samples to get a highly reliable sense of overall community views. Further, because of the limited size of a representative sample, citizens' votes can be tabulated very rapidly, thereby enabling multiple questions and interactions.

Because representative approaches are already used to run democracies, and because scientific procedures for assuring

fair representation are well developed, obtaining feedback from a random sample represents an excellent solution to our needs. By relying upon a scientific sample, a community or nation can obtain inputs from a trustworthy cross-section of citizens (who would be called several weeks in advance of a televised "town meeting" and asked to participate). Those who agree to participate are sent a list of phone numbers that correspond to various options (yes/no, multiple choice, intensity) and that they can call to register their views on the night of the Electronic Town Meeting. By dialing a particular number, they can register their agreement or disagreement with various options or express the intensity of their sentiments. This kind of telephone-based, scientific feedback can be obtained in the TV studio in three minutes or less and then be displayed with computer graphics for everyone to see. By combining representative feedback with an informative documentary and in-studio dialogue that employs conflict-resolution skills, a community can know its own mind with a high degree of accuracy on the key issues of the day.

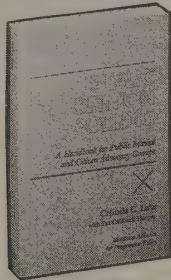
A representative approach to mass community dialogue and feedback was tested successfully in the San Francisco Bay Area in 1987, with a prime-time "Electronic Town Meeting." This pioneering experiment was developed through the cooperative efforts of a nonpartisan media organization ("Choosing Our Future"), the local ABC-TV station, and the League of Women Voters. The program was viewed by more than 300,000 persons; six "votes" were taken during the hour. As questions came into focus, the preselected random sample of citizens was invited to dial in their vote on an issue. Because feedback was so fast, the community was easily able to ask itself a half-dozen questions during the pilot "ETM."

With weekly or monthly Electronic Town Meetings in major metropolitan areas across the nation as well as regular national ETMs, a new level of communication and accountability could be established between the public and decision-makers. Because this feedback would be strictly advisory, it respects the responsibility of decision-makers to give feedback to those who govern. The biggest challenge we now face is to evolve the art and practice of conscious democracy in the communications era. ■

Public Opinion Polling

When trying to gauge public opinion on any community issue, nothing can substitute for extensive person-to-person contact. Sometimes, though, you need to quantify your impressions. This is the best book I've seen for doing so.

From concepts to checklists, *Public Opinion Polling* tells you how to conduct valid and defensible polls using the limited resources of a volunteer organization. (And along the way you learn how to interpret polls conducted by others — your opposition, perhaps?) —Keith Jordan



Public Opinion Polling

(A Handbook for Public Interest and Citizen Advocacy Groups)
Celinda C. Lake and Pat Callbeck Harper, 1987; 165 pp.

\$19.95 (\$22.95 postpaid) from Island Press, Box 7, Covelo, CA 95428; 800/828-1302

You should have a "Don't know" category in your set of answers for almost every question, even if it isn't asked. Groups often resist this rule in the mistaken belief that everyone has an opinion and simply must be coaxed into giving it.

When you include "Don't know" in the answers offered to respondents, the pro-

portion of people using it will increase because you have legitimized admitting that they have no opinion on the issue. Adding such a category usually clarifies what opinions really are held. When people are encouraged to give an opinion on a subject about which they know little or have no opinion, they respond randomly, which tells us very little.

- Longer telephone surveys (20 minutes or longer) involve more work, more interviewing hours, and sometimes greater turnover and burnout of interviewers. Your organization should be aware of the additional work, frustration, and planning that longer surveys require.

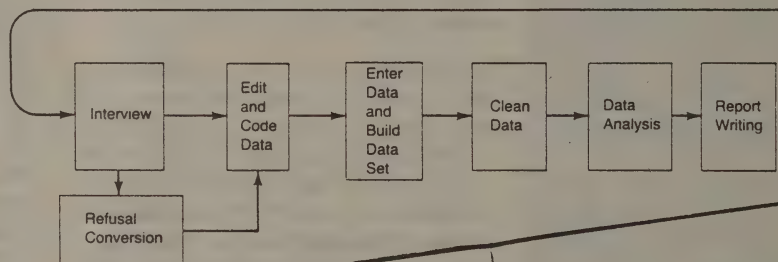
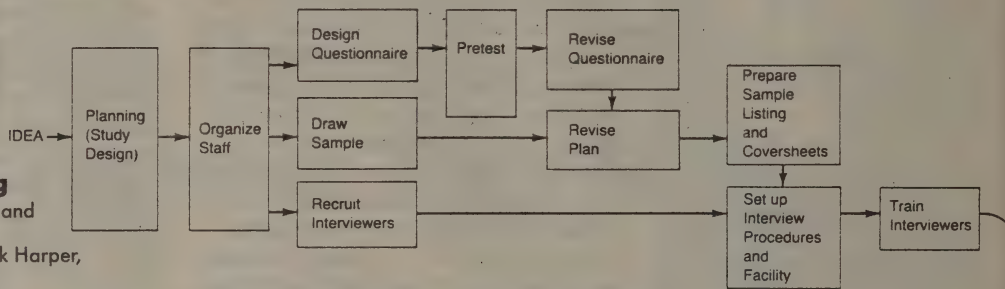
Longer telephone surveys may necessitate

arranging to interview the respondent on two different occasions. Try to keep these interviews as close to the same day as possible. Keep track of your appointments and where the interview should be resumed.

In many studies, a critical core of information is contained in the second half of the questionnaire. If a respondent wants to quit and refuses an appointment to resume the survey, the interviewer should try at least to get the answers to those critical questions. This should take not more than 5 minutes. Over half of these respondents can be convinced to answer "a few more basic questions."

If the respondent has answered the key questions, keep the interview, even though the rest will be considered "missing data."

The steps involved in polling.



Directory of National Helplines

Here, via toll-free 800 numbers, is direct access to more than three hundred social, economic, health, and environmental organizations and agencies that provide assistance to people in need of support and advice. Each listing includes hours, types of assistance, and additional resources offered. At first I thought six bucks was a bit steep, but I checked a general directory of 800 numbers and couldn't find many of the services indexed in *Helplines*. —Sarah Satterlee

Directory of National Helplines

(A Guide to Toll-Free Public Service Numbers, 1990-1991)
Consumers Index, 1990; 72 pp.

\$6 postpaid from The Pierian Press, Box 1808, Ann Arbor, MI 48106; 800/678-2435



Cottage Program International (Substance Abuse)
1-800-752-6100

Available 8:00-5:00 MTZ, M-F. Funded by federal grants. Functions as a prevention and referral service for substance abuse. Offers counseling and seminars to alcoholics and drug abusers, along with their families.

Rapha (Substance Abuse)
1-800-227-2657

Available 8:30-9:00 CTZ, M-F; answering service after hours. Will assist callers or provide referrals for Christian psychiatric and substance abuse treatment.

Target National Resource Center Hotline (Substance Abuse)
1-800-366-6667

Available 8:00-4:30 CTZ, M-F; answering machine after hours. Provides information about alcohol and other drug use in the form of films and publications. Also offers a catalog of resource materials and names of programs in local areas. Catalog and monthly publication sent free to all high schools. Workshops/training available.

National Sudden Infant Death Syndrome Foundation
(Ex MD) 1-800-221-7437

Available 8:00-5:00 ETZ, M-F. Answers questions on Sudden Infant Death Syndrome. Provides referrals for support groups. Pamphlets available.

Sudden Infant Death Syndrome Institute
1-800-232-SIDS

Available 8:00-4:30 ETZ, M-F. Non-profit organization. Gives information on research, patient care, and support groups. Physicians available for advice. Broad-specific categories—professionals,

Tall Clubs International (Tallness) 1-800
Available 24 hours as an answering service callers to social organizations for tall people area. Newsletter available.

IRS Tax Information 1-800
Available 24 hours. Recorded general tax

IRS Taxpayer Assistance 1-800
(Tax forms only) 1-800
Available 9:00-5:00 ETZ; answering hours. Answers federal tax questions installment agreements for those who meet payments in lump sum.

National Association of Enrolled Agents (Taxpayer Representation) 1-800
Available 24 hours as an answering service names of Enrolled Agents.

Telephone Equipment see Handicapped

Temporomandibular Joint see Orthodontic Facial Surgery

Tennessee Valley Authority (TV) 1-800-232-5800

Available 8:30-4:30 ETZ, M-F after hours. Sponsored by the Hotline for employees and citizens fraud, waste, and abuse of the authority. Newsletters available.

USTA National Junior Tennis (USTA) 1-800-232-5800

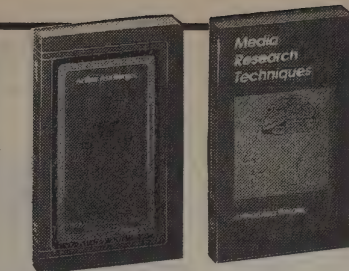
Media Analysis Techniques

• Media Research Techniques

The average American household has at least one television on for seven hours a day, receives pounds of magazines, is bombarded by advertising and propaganda from billboards, flyers, radio, and junk mail, but you have to be a communications major in college to learn how to conduct your own media research and analysis. Arthur Berger's amusing and readable entry-level college texts show how to learn, and teach ways to separate the info from the bullpuckey.

—Howard Rheingold

A number of advertisements for cosmetics and fashion are analyzed in this chapter in order to further our understanding of how they generate "meaning" and what they reflect about society. First we deal with advertisements for a cleanser and moisturizer, and a treatment for the entire body, after which we examine an advertisement



Media Analysis Techniques

Arthur Asa Berger, 1982; 160 pp.

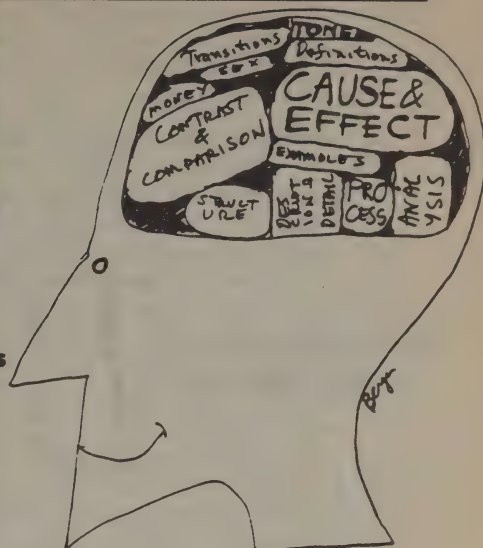
\$12.95 (\$14.45 postpaid)

Media Research Techniques

Arthur Asa Berger, 1991; 148 pp.

\$14 (\$15.50 postpaid)

Both from Sage Publications, P. O. Box 5084, Newbury Park, CA 91359; 805/499-0721



for Danskins, and finally one for Calvin Klein separates. Attention is paid to the language used in the advertisements and to the way graphics are employed to generate beliefs and attitudes. Semiological techniques are employed to show how lan-

guage and graphics function as signifiers that are derived from codes we all learn. It is also suggested that advertisements work by "striking" responsive chords in us, and not just by giving us information.

—Media Analysis Techniques

CASim

Macintosh users frustrated by the lack of any good program that runs a range of cellular automata (CAs), like Rudy Rucker's *CA Lab* does on DOS, will be thrilled to hear of *CASim*. For the uninitiated, CAs are mathematical constructs where "cells" on an imaginary grid are filled up or left blank in an impending tick of the clock, depending on the state of the cells surrounding them. As the clock ticks continue, patterns can emerge, sometimes complex and fascinating ones. Not by accident is the best-known CA called *The Game of Life*.

Though it runs more slowly than one would prefer, and requires some brainwork before you get it going, *CASim* is a grown-up way to indulge in this endlessly diverting, sometimes scientifically worthwhile pursuit. Rules of several CA schemes are included, as well as a few related experiments such as diffusion and growth, and tools are included to create your own. There are also functions to record your findings. The manual is clearly written, a resource in itself.

—Steven Levy

CASim

Version 1.2. Macintosh II and SE30; 256 colors recommended.

\$29.95 postpaid from Algorithmic Arts, P. O. Box 20191, San Jose, CA 95160

With all its intriguing complexity, Life is a simple rule. If you are turned off, and you have three neighbors which are on, then turn yourself on, otherwise stay off. If you



Brownian motion causes particles to form a fractal crystal by running the Diffusion rule on the image file "Diffusion Bottle."

are on, and you have two or three neighbors that are on, stay on; otherwise turn yourself off. Life is a Semi-Totalistic rule, because your new state depends on both

your neighborhood and the value of your current state, which is considered separately from the state of the rest of the neighborhood.

Discount Booksource

Almost any book in print (many discounted 11 to 30 percent) is at the answering end of 800/833-0720. Now that I just pick up the phone to order books, the clutter of book reviews and scraps of paper with book references has disappeared. Although Discount Booksource will take checks or ship COD, once a

credit-card account is set up, repeat ordering is fast. Their friendly staff is happy to help locate books in their huge database if I have only partial (or wrong) publishing information.

—Kathleen Creighton

Discount Booksource

1933 Whitfield Loop, Sarasota, FL 34243; 800/833-0720 (orders), 813/758-8094 (inquiries/quotes)

Big Sky Telegraph

by *Frank Odasz,*
System Operator

BIG SKY TELEGRAPH (BST) was created by grants from the US West Foundation of Montana and the M.J. Murdock Charitable Trust. Its object is to train rural teachers in knowledge-access skills and to serve as a cooperative for individuals and organizations who could benefit from the advantages of online telecommunications. BST went online January 1, 1988. Western Montana College received a grant from the Intermountain Community Information and Library Services Program to create a two-credit online course entitled "Computer Literacy on the IBM" as a means of providing microcomputer skills training at the students' location and choice of time. Larry Hyslop, Western's Microcomputer Center Director, developed and taught the class. Anyone, anywhere, anytime, can take this course, provided access to a microcomputer, modem and phone line.

Word gets around fast in the world of computer-mediated communications, especially where the indefatigable Dave Hughes is involved. A couple of years ago, he started telling stories on the WELL about his efforts to help a couple of idealists in Montana, Frank and Reggie Odasz, to set up a network of electronic bulletin-board systems that could bring the benefits of computer-mediated communications to rural areas. A year ago, when Linda Garcia of the U.S. Congress Office of Technology Assessment told me that the OTA was going to do an assessment of the communication needs of rural America, I told her to find out about Big Sky Telegraph. When I started looking for examples of electronic democracy, I fired up my trusty modem and logged onto Big Sky to see for myself. I left an electronic message for the system operator, and this article was the result of our online encounter. —HR

Jody Webster, Director of the Women's Center of Dillon, has been using BST to teach the 12 Montana Women's Center directors how to share information more effectively. Last year, Jody received funding for homebound women to receive microcomputer training by using loaner computers and modems to receive instruction from their homes or places of work. Sue Roden, of Lima, MT, was able to build her computer skills from the Gas 'n Snacks truckstop between fillups. When she got stuck on Lesson 2, a trucker named Windy looked over her shoulder and got her going again. Sue hopes to use telecommunications to work in Lima as a bookkeeper for someone in Dillon, 45 miles away.

Barb Burke, of Missoula Women for Economic Development, recently received funding to use telecommunications to deliver computer training to apprentice-style learning groups of women in Dillon, Glendive and Miles City. Not interested in college credit, these groups intend to work together to gain mastery of the skills that will open entrepreneurial opportunities for them.

Two years ago, Ralph Neslen of the Colum-



direct from MIT, and by a local elementary class to send messages to Sweden. BST already has ongoing communications with an online educational system in Tokyo.

Roger Fuchs graduated from Western in 1988. During his last semester he took a class that covered online telecommunications, the only such course in the Rocky Mountain region. Less than six months later, he became the system operator for a new electronic information service sponsored by the Montana Department of Administration. Twelve different bulletin-board systems are currently running in Montana. The Montana Department of Agriculture, Department of Commerce, Office of Public Instruction, and Northern Montana College all have systems up and running. Many others are in the planning stages. Training individuals in their use is the common problem. Currently, only BST provides online lessons in modem use.

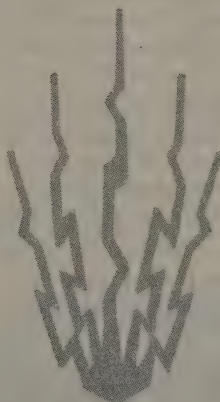
Jack Degolia, Public Affairs Officer for the U.S. Forest Service, learned online telecommunications on BST. He created the Wildernet conference on BST for conservation discussions. The Forest Service, loggers, conservationists, and Earth First! have all contributed. Smokey Bear has been an electronic penpal favorite with rural students using BST for telewriting projects.


WESTERN Montana College's Rural Education Center of Montana received a large grant for a rural drug-education program. Twenty rural teachers were trained and served as resource persons in their regions. BST was used to share information between the members of the group and is credited with being a major reason the grant was funded.

Western Montana College's library has used Big Sky Telegraph for two years to receive resource requests from rural schools. Last week Marsha Anson requested a book from Wise River and was surprised to find that it arrived the very next day. Rural schools need no longer be resource-poor. Free ERIC (Educational Resource Information Clearinghouse Database) searches are available online; the results are sent electronically to teachers. Bibliographies by topic, and selected lesson plans, are offered by the library as well as topic-specific boxes of posters and multimedia materials ("dinosaurs" is a popular request). Requests for materials not available at Western are met through the Western Library Network,

Butte Education Center's Western Educational Support Team (CEC-WEST) received four grants to link the National Diffusion state facilitators from 15 states. This year, CEC-West received 12 grants that included funds to expand the multistate use of BST for educational sharing. The planned region to be networked extends from the Bering Straits to Pago Pago in American Samoa. During the summer of 1991, 450 rural teachers across the 15-state region will attend workshops to learn how to access BST.

Ron Lukenbill, telecommunications specialist for the Montana Office of Public Instruction, travelled to Russia recently to establish connections between Russian and Montanan teachers. He carried brochures from BST that presented not only educational networking models, but economic development and rural community support solutions as well. Telegraph's on-line connections already had key persons expecting his arrival. The Silverbow BBS at Butte High School, created by BST's expansion grant this fall, has been used by the Russian-language class to penpal with Russian students, by gifted science students to receive a chaos-theory course





We're evolving away from multiple separate educational institutions and becoming an integrated K-100 system. Instead of having a University of Montana, perhaps eventually we'll have "Montana — the University," an electronically integrated resource-sharing educational system without arbitrary institutional barriers.

which gleans materials from dozens of libraries across the western United States.

The Headwaters Resource, Conservation and Development Organization has been using Telegraph for over two years to connect seven county economic development offices. Headwaters has created, and maintains, an online database of economic development information on the seven counties. As an aggressive, innovative, grassroots leadership group supporting economic development initiatives, it seeks to give individuals and rural communities knowledge-access skills. Headwaters recently received a grant to create a Rural Economic Development Incubator, whose manager will travel among the seven counties with a laptop computer to keep in close touch with his clients while on the road.

Ann Rogan, Director of the Southwest Montana Special Needs Co-op, is online with the rural schools to respond to special needs. She just received word from Salmon, Idaho, that a 13-year-old quadriplegic needs a means of using a computer so he can keep up with his homework. She is eager to help; inquiries for the proper information have gone out to numerous other sources via BST.

TECHNOLOGY Education faculty from Western, Northern Montana College, and Montana State University are using BST to offer lesson plans and interactive support and training to teachers statewide. A similar effort for Home Economics faculty is just getting started with an eye toward the circuit-rider/trainer concept, distributing modems to interested teachers. Wyoming does not have an online educational system to speak of, nor does it have a rural teachers' association of any kind. Since out-of-state calls are cheaper than in-state calls, a growing number of Wyoming teachers are coming online on Telegraph to learn how to use online telecommunications and share resources.

Private individuals are empowered by BST as well. Gerry Bauer came to Western two years ago with a severe back injury to find a new means of employment. He now advertises his "Computer Access" computer-supplies business online on BST. Able to conveniently answer questions and receive orders online (such as for a puppy-damaged printer cable at the Polaris school), he has a rapidly growing reputation as a reliable

local computer expert. He maintains steady, low-volume sales in computer systems and offers computer training as well. Ralph Martin, a paraplegic from Willow Creek, is in the process of training individuals from various Montana handicapped groups in online skills. Ralph has helped train several rural teachers and hopes to find funding to be a circuit-rider/trainer. Ralph is also coordinating handicapped basketball teams from two states, and would like to be able to do so online, if he could find micros and modems for the various team captains. Bob Bryant is a quadriplegic high-school teacher from Ronan who runs a desktop-publishing business as well as a remote-controlled-kite business from his home and advertises on BST. Bob has been searching for grant funds to allow him to teach online courses for disabled individuals. He helps maintain the ReAbled files area on BST.

Two microcomputers with combined storage of nearly half a billion characters run four customized conferencing systems, each with simple menus for public and private messaging in conferences supported by twelve files areas for document exchange between any type of computer. Through another conferencing system, two keystrokes from teachers' and students' PCs will make an automated phone call to exchange messages, conferences and files to BST's five community BBSs, 8,000 national Fidonet systems, and 15,000 global Unix systems. All reading and writing is done on individual PCs; rapid exchange minimizes communications costs. BST will soon be accessible through a statewide network, MUSENET (Montana University System Educational Network), now linking seven higher-education institutions through T1 (special high-speed data communication) lines. Each institution will be equipped with modem banks to provide regional community access.

Online courses can now be taught at no extra cost to students. Faculty can conference with peers at other institutions, and receive online instruction in global networking for professionals at times of their convenience. Campus access to BST and MUSENET at Western Montana College is available from terminals connected to Telegraph through the campus microcomputer via Ethernet, as well as by modems from faculty desks, selected microcomputers in six computer labs, and the campus library. We're evolving away from multiple separate educational institutions and becoming an integrated system. Instead of having a Uni-

versity of Montana, perhaps eventually we'll have "Montana — the University," an electronically integrated resource-sharing educational system without arbitrary institutional barriers. Distributed conferencing among school-based bulletin board systems may provide a cost-effective means of sharing information and instruction. For example, MIT's Plasma Fusion Lab delivered a high-school chaos-theory course for gifted science students through BST and two of BST's Community BBSs.

WE have funding for 104 additional community sites, selected on a first-come, first-served basis; other communities may still participate for a sum of \$300, which includes the cost of a modem and the training of one community telegrapher. Our goals include 40 rural schools (to include ten Native American schools), twelve rural public libraries, twelve rural economic development offices or chambers of com-

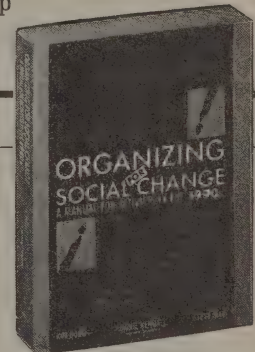
merce, twelve women's centers, twelve Soil Conservation Service or County Extension offices, five handicapped organizations, and five rural hospitals.

The actual number of individual efforts and "dreams in the making" are too numerous to mention. Anyone can begin a new future through a system like Big Sky Telegraph. BST plans to attract funds for much more training, to create more hard examples of economic development successes, and to set up other online systems that can be linked to global networks. Telecommunications today is where electricity was in 1880; we have it, but don't quite know how to use it. Grassroots leadership appears to be the most productive strategy toward demonstrating the potential. Interested? Find a friend with a modem and call 406/683-7680. Access is free at 1200 baud, 8N1. Ask a question and an entire community will respond with offers to help. Soon you'll be in a position to help others, too. ■

Organizing for Social Change

This is a systematic tutorial, powerful sourcebook, or handy cookbook for activists, depending on how you want to use it. If you want to learn the theory and practice of direct action, from the neighborhood to the national level, you can use the book as a self-teaching text. If you want to look up the address of a citizen organization in your state or find out where to get audiovisual materials with a progressive perspective, you'll find a lot to choose from. If you have a specific concern — environmental activism, the mechanics of setting up a nonprofit, designing and leading workshops, tactics for investigative journalism — you can go directly to the "recipe" that interests you. —Howard Rheingold

• Giving people a sense of their own power is as much a part of the organizing goal as is solving the problem. A local issue, such as getting abandoned houses repaired, illustrates this point. There are many ways in which the houses could get repaired. An outside organization could come in and fix them for the people. That would be a social service approach. Community members could take house repair classes and then repair the houses themselves. That would be a self-help approach. An outside organization could intercede for the community with the officials responsible. That would be an advocacy approach. Another outside group could propose legislation mandating the repair of all houses. That would be a public interest approach.



Organizing for Social Change

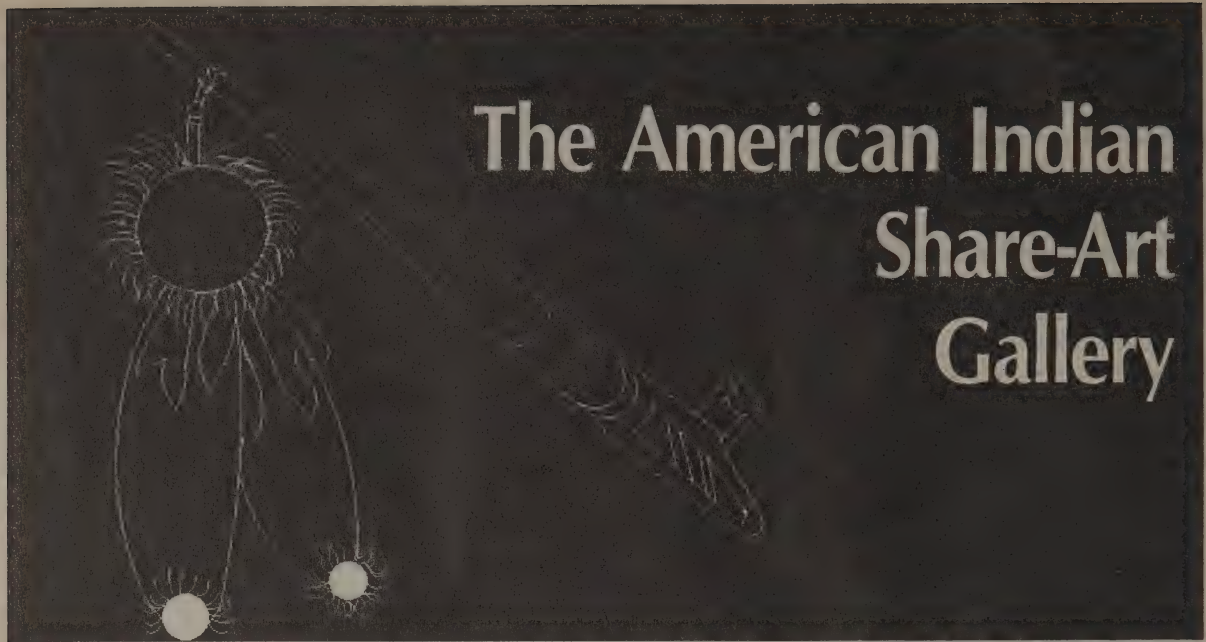
Kim Bobo, Jackie Kendall, and Steve Max, 1991; 271 pp.

\$19.95 (\$22.95 postpaid) from Seven Locks Press, P. O. Box 27, Cabin John, MD 20818; 800/537-9359 (or Whole Earth Access)

Finally, the community members themselves could organize, and with the strength of their numbers, pressure the politicians and officials responsible for abandoned houses. This method leads to the community developing the power and ability to hold city officials accountable to them. Community members feel that there is a victory and it is their victory. This motivates them to try to solve other problems. When people who were not previously involved hear about the victory, and more important, see the houses repaired, they will join the group. Larger numbers mean more power, and more power means that bigger issues can be won. Eventually the organization becomes a force in the area. This power can be used again and again.

Members of New Jersey Citizen Action, a statewide coalition, pressing for passage of the Right to Know bill.





The American Indian Share-Art Gallery

By *Cynthia Denton*

THE PURPOSE OF the American Indian Share-Art Gallery is to promote and preserve the culture of Native Americans and the heritage of the American West. The State of Montana, like most of the western states, depends upon economic stimulation from outside our geographical boundaries. To improve the economic condition of the Indian reservations within the state of Montana, we hope to assist Native Americans with their efforts to market one of their most valuable assets, their arts and crafts.

Computer-mediated communication is about making connections, so it isn't surprising to discover that one computer community can lead to many others. Dave Hughes led me to Big Sky Telegraph (page 32), which led me to a computer bulletin-board system where young Native American artists from different tribes can display aspects of their cultural heritage and sell their designs via an online art gallery. The American Indian Share-Art Gallery is now available for viewing and downloading on the Russell Country BBS in Hobson Montana: 406/423-5433. Cynthia Denton is the sysop and operator. For more information, write her at 201 Third Avenue East, Hobson, MT 59452. —HR

This project started with the implementation of the Russell Country BBS on October 20, 1990. This was made possible by the help of David Hughes, who assembled, wrote, and installed the software for the BBS, arranged the Big Sky Telegraph and international connections, and conceived the basic idea of the American Indian Share-Art gallery. Frank Odasz, sysop of Big Sky Telegraph, used funds from a grant from US West Communications to make the project possible.

In December 1990, Big Sky funded a workshop on learning how to create artwork via computer and modem. In attendance were five artists and seven computer coordinators, representing five reservations. Under the guidance of Dave Hughes, the artists produced the initial artwork that is presently online for viewing, while the computer coordinators learned how to help the artists get their artwork to Russell Country

Sioux Pipe:

This pipe, which may be pointed to the four directions, up to the heavens, down to the earth, or revolved by the hands of the smoker in a sacred circle, is a vehicle for offering sacred tobacco to the cosmos. The feathers are a mystical touch, a good luck symbol from a magical bird that always returns. —GR

Drum "Lefthand":

A Hunkpapa Sioux whose name was originally Catches The Bear — LeftHand was a Standing Rock Sioux. Personal visions were painted on shields to protect the owner.

BBS and how to use telecommunications for a variety of other activities.

The artwork is created with the use of NAPLPS (North American Presentation Level Protocol) software, a program that enables graphics — from visual arts to mathematical and scientific notation — to be telecommunicated. The artwork is produced with the use of DOS-compatible computers, EGA and VGA color monitors, and a mouse.

The Native American artwork is in the form of "Share-Art." Individuals may dial Russell Country BBS to view the artwork online as often as they wish. However, should they decide to download the artwork for permanent display on their computer system, they are asked to purchase that right. This is possible by using either VISA or MasterCard online or by check or money order; 85 percent of the proceeds go to the artist. After people purchase the right to display the

artwork, they may use it to enhance their computer screens while they are not in use.

The Native American artists currently presenting work are: Harvey King, an Assiniboine from the Fort Belknap Reservation; Gina Ryan, a Sioux living on the Fort Peck Reservation; Henry Webster, a Chippewa-Cree from the Rocky Boy Reservation; Courtney Stewart, a Crow from the Crow reservation; and Willis Tsosie, a Navajo living on the Crow Reservation. In addition to these artists, Dave Hughes has presented an illustration of a poem, in both English and Assiniboine, written by Minerva Allen, a member of the Assiniboine tribe.

The expansion of the use of this medium, with its combination of text and artwork, could have a significant influence in the Native American classroom. Taking advantage of the opportunity to use English and native languages in combination with artwork could provide learning benefits in English, native language, and tribal history. This could turn out to be a powerful means of encouraging Native American students to learn more about their heritage and to focus on their own culture. Native American schoolchildren today are the spokespeople and leaders for the Native American population of tomorrow. This learning and training can increase their sense of individuality, self-esteem, and self-expression.

Our goal over the next five years is to bring a wide variety of Native American share-art online, representing as many tribes as possible. We have created an online catalog showcasing Native American crafts and handiwork. In the future we hope to expand this catalog beyond Montana Native American work to include art of indigenous people from other states and countries. ■



About the Artist:

I am Gina Ryan from the Fort Peck Reservation, Poplar, Montana. I am a Dakota or Sioux-Yanktonai and Hunkpapa Sioux. I am a direct descendant of the great Sioux leader and medicine man Chief Sitting Bull. I do not know exactly where my ancestors came from because my people were put on reservations by the white man. I do know that my blood runs from Standing Rock, The Black Hills, and from Fort Peck.

I graduated from Fort Peck Community College in spring 1991. I am intrigued with computer graphics and have devoted much time to creating Indian graphics, not only Sioux graphics but designs that originate from other tribes as well. I am a single parent. My son Moses was five in April, and Joshua will be one in March. I will be married in the near future to Lennie Grayhawk, a wonderful Oglala Sioux man.

Resources:

CTLink 2.10 is software that enables DOS-compatible computers to upload and download graphics using NAPLPS, ALEX, MINITEL, VT-100, and ANSI protocols. Available from:

CTL Communications, 611 Broadway/Suite 430, New York, NY 10012-2608; 212/477-2424. DOS version \$39.95 plus \$5 shipping and handling; Macintosh version \$49.95 plus \$5 shipping and handling. NY State tax 8.25% where applicable.

Earthtrust: Electronic Mail and Ecological Activism

by Don White

EARTHTRUST, A NONPROFIT ORGANIZATION, was set up to deal with international wildlife protection and environmental problems that fall between the cracks of local and national environmental movements. Recent Earthtrust programs include shutting down Korea's illegal whaling operations, expeditions to South America to save Amazon wildlife, acoustic and communications research on whales and dolphins, and groundbreaking work against deep-sea gillnetting fleets. Earthtrust solved the perennial overhead problems confronted by most international organizations by creating an electronic network of campaign workers who use electronic mail to leverage their local efforts into an international program.

Earthtrust volunteer workers are assigned an Earthtrust electronic mail account or are encouraged to open a personal electronic mail account. In cases where the volunteer will be doing a significant amount of program work, Earthtrust provides the basic electronic workstation: an inexpensive computer, modem and printer. This station costs Earthtrust well under \$1,000, and transforms the volunteer's house into an Earthtrust "branch office." That volunteer may then keep in daily communication with other Earthtrust campaigners and the main office in Honolulu. People who are thousands of miles apart can co-author reports and compare data very inexpensively.

By enabling professional people to do good environmental work in their own homes, Earthtrust has tapped into a huge "people resource" of folks who choose not to move to Washington, DC, or other large cities (where most large conservation organizations are based) in order to work on conservation projects. Previously, if people wanted to do such work, the cost of relocation meant that the conservation group would have to pay high salaries. Organizations developed high overheads; this limited the number of persons who could be involved in the effort, and limited the number of issues that could be addressed. These factors have been the most important limits to growth in the national environmental movement.

Has Earthtrust found a panacea? As the organization's director, I'd say electronic mail comes darn close. Our organization has accomplished goals over the last two years that rival the achievements of organizations with 20 times Earthtrust's annual budget. ■

Don White is the Director of Earthtrust (2500 Pali Highway, Honolulu, HI 96817), a nonprofit organization involved in wildlife protection and environmental campaigns. You can contact him via MCI Mail; his user name is earthtrust. —HR

WWOOF

Willing Workers On Organic Farms (WWOOF) makes it possible for the alternative traveler to really experience New Zealand. The program, which celebrates its seventeenth year in 1991, exists as a means of putting "wwoofers" in contact with a network of communities, ventures in self-sufficiency, farms, and market gardens, for which organic growing plays some part. These communities will provide meals, accommodations, and experiential education in exchange for work on the land. In addition to fostering organic methods, the program promotes alternative, sustainable lifestyles and provides useful contacts with interesting people. Lasting friendships are often made between wwoofers and hosts during this grassroots cultural experience.

—Mike Sutherland

WWOOF

Membership **\$7**; information **free** from Jane and Andrew Strange, P. O. Box 10-037, Palmerston North, New Zealand; telephone 063/55-3555

Sports 'N Spokes

Wheelchair racquetball? Of course! And skiing, sailing, road racing — you name it. This lively, upscale and upbeat magazine brings you the latest news in international "wheeler" recreation and competitive sports. As you might expect, there's a determined, pragmatic tone to the articles — they're a lot different from what you read in magazines whose reporters merely observe, rather than participate. More surprising (at least to me) are the busy international competition schedules. There is also an enormous selection of equipment. The issue I'm looking at features an annual survey of available lightweight wheelchairs — pages of them. A few years ago you could have surveyed them all in one sentence. Obviously, a lot of people have been working very hard. This magazine is a great place to watch 'em go.

—J. Baldwin

Sports 'N Spokes

Cliff Crase, Editor

\$9/year (6 issues) from 5201 N. 19th Avenue/Suite 111, Phoenix, AZ 85015



Environmental Vacations

*Such a deal! Instead of lolling in hedonistic luxury, you pay about the same money for the privilege of assisting in some environmentally worthy field work. Nevertheless, many folks who spend their vacations in this way will tell you that the adventure and satisfaction were well worth it. This book tells you how to arrange things — Earthwatch (**Ecolog** p. 103) isn't the only organization around. Lots of frontline stories from participants give you a good idea of the range and character of the work and the living conditions. There are names and addresses of just about all the organizations that might welcome your help. Good advice will ease deciding which one is for you. With the exception of a weak chapter on health hints, it's just what you need to know.*

—J. Baldwin

• The only mistake a volunteer can make, according to several scientists, is not being culturally aware before going into the field. It is one thing not to read the science literature, but it is far worse not to know something about the country you will be working in. One scientist remembered a volunteer on a project in French Polynesia who asked, "Why is everything in French?" Because he found the place "unsanitary," the scientist said, "he drank sodas and ate cookies and left after ten days."

The Foundation for Field Research has initiated innovative weekend projects for volunteers who want to be involved in a research project but lack the time. In cases where sustained fieldwork is not fundamen-

Environmental Vacations

Stephanie Ocko, 1990; 235 pp.

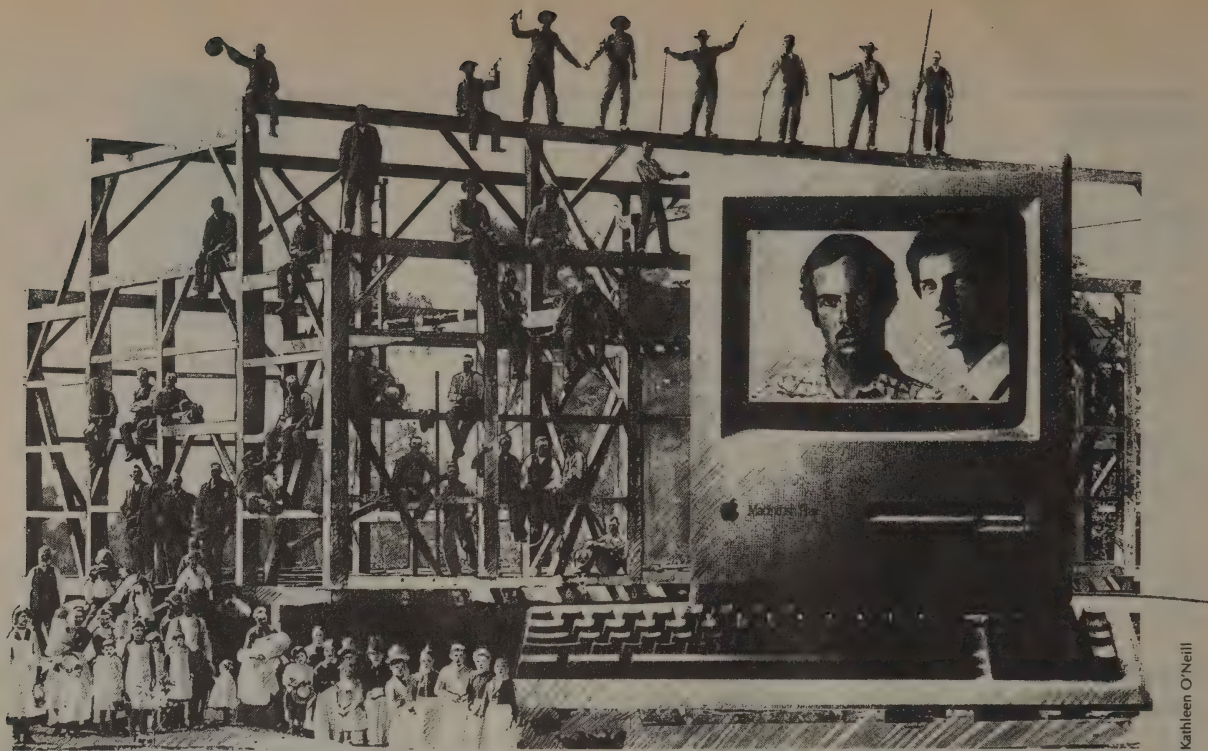
\$15.95 (\$18.70 postpaid) from John Muir Publications, P. O. Box 613, Santa Fe, NM 87504; 800/888-7504 (or Whole Earth Access)



tal to the integrity of the science — for example, trapping and banding huge red-tailed hawks near Bakersfield, California, to establish migration patterns — the projects are successful.



Even a Mous (Mustapha Badid) can fly at the 9th Oita International Wheelchair Marathon.



Kathleen O'Neill

The Electronic Frontier Foundation and Virtual Communities

by Mike Godwin

THE ELECTRONIC FRONTIER Foundation is living proof of the existence and effectiveness of virtual digital communities. EFF arose from the interactions of citizens who were, and are, “neighbors” in electronic communities, and EFF has gone on to establish its own communities, not the least of which is the EFF conference on the WELL.

Mike Godwin is the staff counsel for the Electronic Frontier Foundation (EFF).

EFF was established to help civilize the electronic frontier; to make it truly useful and beneficial to everyone, not just an elite; and to do this in a way that is in keeping with our society's highest traditions of the free and open flow of information and communication. For information about EFF, e-mail mnemonic@eff.org; write EFF, 155 2nd Street, Cambridge, MA 02141; or call 617/864-0665. —HR

The WELL was a key community from the beginning. The way communities normally shape their responses to outside events is for neighbors to chat — perhaps even gossip — over the fence. This kind of informal exchange of information led to two crystallizing events behind EFF's formation. The first was an online WELL conference on “hacking” sponsored by *Harper's* magazine. One result of that conference was that WELL user and Grateful Dead lyricist John Perry Barlow met and befriended a couple of hackers who went by the cyber-punkish noms-de-hack “Acid Phreak” and “Phiber Optik.” Although they “knew” each other electronically, Barlow's face-to-face meeting with Acid and Optik was a revelation: “Acid and Optik, as material

beings, were well-scrubbed and fashionably clad," Barlow later wrote. "They looked to be as dangerous as ducks." Barlow soon concluded that law enforcement's characterization of these hackers as major computer criminals was disproportionate to their actions, which had more to do with intellectual curiosity and youthful exploration than with genuine criminal intent.

The second crystallizing event occurred when Barlow and another WELL user, Mitch Kapor (a founder of Lotus Development Corp. and On Technology), compared notes about their respective visits by FBI agents. The agents were investigating the unauthorized copying and distribution of Apple's proprietary source code for the ROMs in the Macintosh computer, and both Kapor and Barlow were startled by how little the FBI seemed to know about the nature of the alleged crimes they were investigating. Barlow later published an account of the visit on the WELL (print-published as "Crime and Puzzlement" in *WER* #68).

As Barlow wrote in the March issue of the Foundation's print newsletter, *The EFFector*: "Mitch's experience had been as dreamlike as mine. He had, in fact, filed the whole thing under General Inexplicability until he read my tale on the WELL. . . . Several days later, he found his bizjet about to fly over Wyoming on its way to San Francisco. He called me from somewhere over South Dakota and asked if he might literally drop in for a chat about [the agents' visits] and related matters. So, while a late-spring snowstorm swirled outside my office, we spent several hours hatching what became the Electronic Frontier Foundation."

Having met in person when Barlow interviewed Kapor for *Microtimes*, the two future EFF cofounders had used the WELL to build on their face-to-face contact. In effect, they had become next-door neighbors, although Barlow lived in Pinedale, Wyoming, while Kapor lived in Brookline, Massachusetts. Says Barlow: "There was a sense that what was going on was a threat to our community." So Barlow and Kapor did what neighbors often do in response to a neighborhood problem — they formed a citizens' group. In this case, the citizens' group was EFF.

I had a chance to play my own role in another example of such concerned-citizen action in Austin, Texas, which has more than its share of computer bulletin-board systems (BBSs). On March 1, 1990, one

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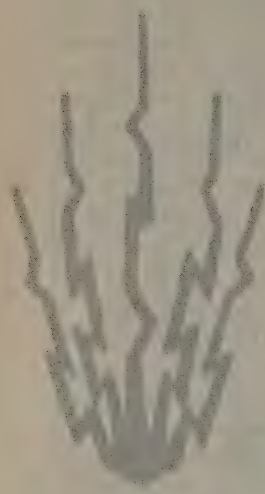
of those BBSs, run by the Austin-based role-playing game company Steve Jackson Games, was seized by the United States Secret Service. Although neither Jackson nor his company turned out to be the targets of the Secret Service's criminal investigation, Jackson was told that the manual for a role-playing game they were about to publish (called *GURPS Cyberpunk 2* and stored on the hard disk of the company's BBS computer) was a "handbook for computer crime."

Austin's BBS community was startled, then outraged, by the seizure, which had the potential of putting Jackson — an innocent third party — out of business. On a BBS called Flight there was a hot debate about the media's failure to pick up on Jackson's story. A third-year law student, former journalist and Flight user, I theorized on Flight that the media hadn't covered the story because they didn't know about it. Or, at least, they didn't understand the issues.

To test my theory, I gathered together several postings from local BBSs and from Usenet, the distributed BBS that runs on the Internet and connected computers, and trekked down to the *Austin American-Statesman* office to talk to a friend of mine, Kyle Pope, who covered computer-related stories. I also took him photocopies of the statutes that give the Secret Service jurisdiction over computer crime, and lots of phone numbers of potential sources. At the same time, I called and modemed materials to John Schwartz, a friend and former colleague who was now an editor at *Newsweek*.

Pope's lengthy, copyrighted story on the Secret Service seizure appeared in the *American-Statesman* the following weekend. John Schwartz's story, which covered the Steve Jackson Games incident as well as the Secret Service's involvement in a nationwide computer-crime "dragnet," appeared in *Newsweek's* April 30 issue. The heavy-handed tactics and overbroad seizure at Steve Jackson Games became a symbol of the law-enforcement community's misconceptions and fears about young computer hackers, and provided a context for Barlow's and Kapor's discussions about creating EFF.

Once they agreed on what needed to be done, Kapor and Barlow went back to the WELL and drew upon the collective wisdom of that community for input into the tactics and strategy of the newly formed



foundation. The same week they announced EFF's formation in Washington, DC, they started the EFF conference on the WELL — a sort of community-within-a-community which quickly became one of the system's most active conferences.

Soon afterward, they created two new newsgroups on Usenet — comp.org.eff.news and comp.org.eff.talk. The latter, like all active newsgroups, has itself become a community of sorts, with a diverse collection of voices addressing — sometimes heatedly — the issues that arise as we proceed to explore and civilize the electronic frontier.

Almost immediately after the foundation was officially launched, EFF's efforts to assist in the defense of electronic publisher Craig Neidorf had tangible results. Neidorf had been prosecuted for publishing a Bell-South text file relating to the E-911 system (see "Attacks on the Bill of Rights," *WER* #70). EFF's law firm submitted an *amicus curiae* brief defending Neidorf's First Amendment rights as a publisher. We also helped Neidorf's defense counsel assemble experts to testify on his client's behalf. And a member of the WELL's EFF conference came up with information that was critical in persuading the prosecutors to drop their case.

It's clear that EFF is not only a product of electronic communities, but has also produced some new communities while continuing to contribute to old ones. It's also clear that the sense of community was seeded by face-to-face contact at key points: when Barlow met Acid and Optik, for example, and when he interviewed Kapor. The need for at least occasional face-to-face contact, Kapor still stresses, means that current networks and BBSs don't simply create community; instead, they amplify it. To be even more accurate, the two phenomena exist in a complex state of coevolution, with face-to-face contacts fueling the electronic relationships and vice versa.

One of the things you often see when you read discussions about EFF on the WELL or on Usenet is a sense that EFF has become a representative body. While this is misleading — EFF is not yet a membership organization — it's still the case that EFF is regarded as an advocacy group for electronic communities in general. You'll often read comments from Usenet folks who think the most appropriate pronouns when talking about the EFF are "we," "us," and "our."

If that neighborly sense of belonging doesn't prove the existence of a community, I don't know what does. ■

Computer Ethics

Despite being a textbook, *Computer Ethics* is surprisingly readable. I'd thought from the title that this book would rehash the usual subject matter of computer-ethics panels — whether it's ever appropriate to "enter" someone else's computer without authorization, whether viruses and worms are the equivalent of vandalism or sabotage, and so on. Forester and Morrison go much further, exploring the whole domain of computer-ethics topics. I was pleased to see that the authors approach such questions as whether a software manufacturer has an ethical obligation to its customers to provide a working (and safe) product, or whether a computer researcher can ethically accept an SDI grant for a project she doesn't believe will ever work. The book is a good attempt to deal with the emerging field of computer ethics comprehensively, and its discussions are punctuated with some memorable (and sometimes frightening) anecdotes. —Mike Godwin

Without adequate legal protection, genuinely innovative individuals and companies might wonder whether the meagre rewards for their efforts really justify the

time and money expended on original research and development. On the other hand, intellectual property owners might try to stake too large a claim for their innovations in order to squelch new ideas and to get a jump ahead of their competitors. This could strengthen the hand of established large firms over small entrepreneurial firms, who have been the traditional innovators of the industry. The question is whether the developmental work put in justifies the influence innovators may gain over both users and competitors. There is a clear need to strike a balance between the interests of these three groups, as we tread the fine line between piracy and progress.

The mass media has tended to sensationalize hacking, whilst soundly condemning it. But there are other points of view: for example, in many instances the breaching of systems can provide more effective security in future, so that other (presumably less well-intentioned) hackers are prevented from causing real harm. A good illustration of this was the penetration of British Telecom's electronic mail system in 1984 by Steven Gold and Robert Schifreen, which resulted in a rude message being left in none other than the Duke of Edinburgh's account! This incident attracted

enormous publicity and led directly to improved security arrangements for the whole of the Prestel system. Gold and Schifreen were therefore extremely indignant at being treated as criminals — and this illustrates once again the discrepancy between what the law considers to be criminal behaviour and how hackers perceive themselves. Although Gold and Schifreen were convicted under the Forgery Act and fined a total of £2,350, an appeal saw the charges quashed. It was argued that since the hackers caused no damage and did not defraud anyone, then they could not be held guilty of an offence.

Computer Ethics

Tom Forester and Perry Morrison, 1990; 193 pp.

\$19.95 (\$22.95 postpaid) from MIT Press, 55 Hayward Street, Cambridge, MA 02142; 800/356-0343 (or Whole Earth Access)

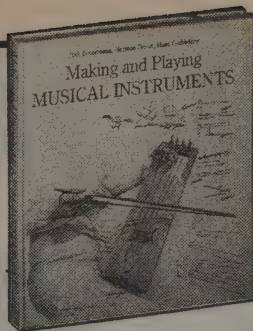


Making and Playing Musical Instruments

Oh, serenade me with rommelpot, sansa and Hanske Knap! Caress my ears with dulcet tones from cowhorn flute and rinkelbom! You'll probably have to make 'em first, though, and this charming book tells you more or less how. I say more or less because, unlike so many modern hand-holding authors, these don't tell you every tiny detail. They also don't belabor you with tiresome, lawsuit-resisting safety admonitions. Refreshing! Especially to those who delight in adding a dash of imagination and cleverness to their projects, as has likely been the custom for centuries. Toolilliterates, young kids, and those who have forgotten what a delight it is to think for themselves will probably feel more comfy if they accompany the book with a suitable mentor. On the other hand, it is a pleasure to read such a fine exposition of instruments from around the world even if you aren't going to indulge in construction and the long hours of practice that precede your concert debut. Nicely illustrated with sharp drawings, explanations of the physics, and color photographs.

—J. Baldwin

• The rommelpot belongs to that distinctive family of drums known as friction drums. The membrane is not vibrated by striking it, but rather by means of friction — being



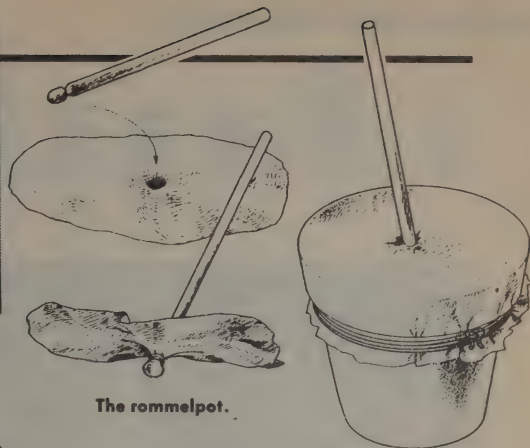
Making and Playing Musical Instruments

Jack Botermans, Herman Dewit, and Hans Goddefroy, 1990; 120 pp.

\$19.95 (\$22.95 postpaid) from University of Washington Press, P. O. Box 50096, Seattle, WA 98145; 800/441-4115 (or Whole Earth Access)

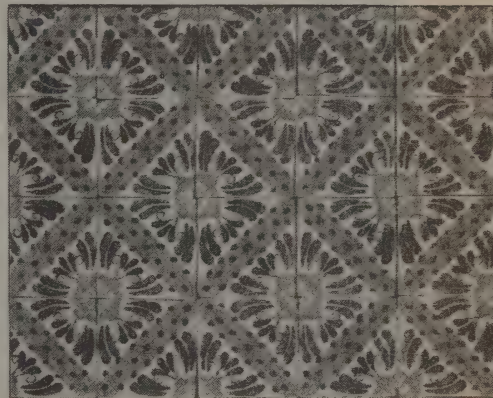
rubbed with the fingers or a cloth, or by a stick or cord piercing the membrane. The instrument consists of a container — a flowerpot, a large can or something similar — over which is stretched a membrane. The rommelpot was used mostly during folk festivals, such as Twelfth Night. . . .

Making a rommelpot is really quite easy. A pig's or cow's bladder can usually be obtained from an abattoir — otherwise you can use one of the alternative playing heads mentioned earlier in this chapter on membranophones. Before it can be mounted, the skin must first be soaked in water. Make sure that the skin is a little larger than the diameter of the pot to be used.



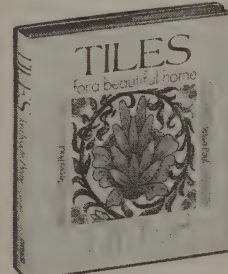
The rommelpot.

Tiles for a Beautiful Home



Well, I suppose you can have a beautiful home without tile, but after reading this book, you won't want to. The color photos are what'll get you; they're of dream-tiles in every style and color imaginable, used with skill and obvious glee in every room of the house. The book concludes with a competent, courage-enhancing tile-it-yourself section, just to make sure you don't escape. There's no mention of making your own tiles, but in case your inspiration isn't matched by your budget, remember that the ceramics class at your local JC can be used to advantage.

—J. Baldwin



Tiles for a Beautiful Home

Tessa Paul, 1990; 157 pp.

\$19.95 (\$21.95 postpaid) from Barron's Educational Series, P. O. Box 8040/250 Wireless Boulevard, Hauppauge, NY 11788; 800/645-3476 (or Whole Earth Access)



Trussing adzes in unison.

• The Elizabethans were very concerned about the tremendous demands being made upon English oak, which was being eaten up by the shipbuilders, the charcoal-burners and builders and furniture-makers as well as by coopers, and because of this laws were passed in 1543 and 1585 prohibiting the export of casks larger than barrels, and making exporters import a corresponding amount of clapboard, or thinly cut timber, for casks. Until this time almost all casks had been made with English oak.

The Cooper and His Trade

This book shows how it was before the 55-gallon drum. Barrelmaking tools and technique, barrelmakers, their culture, guilds and ultimate fate, are all attended from an historian's point of view. The writing is a tad dry, but the photos and a bit of assiduous reading will give you a pretty good idea of why and how things have changed. Whether the changes have been for the better is up to you; at least you'll have more than sentiment to judge by.

—J. Baldwin

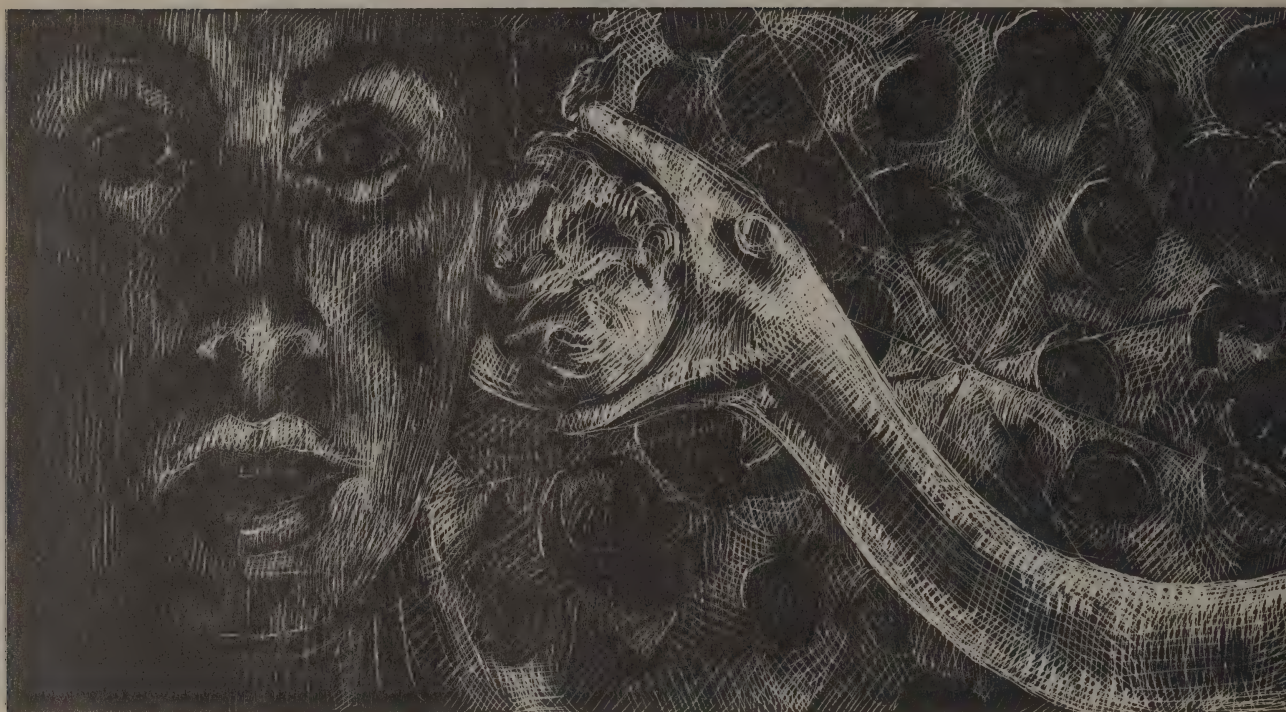
The Cooper and His Trade

Kenneth Kilby, 1971, 1990; 192 pp.

\$16.95 (\$18.43 postpaid) from Linden Publishing Co., 352 W. Bedford #105, Fresno, CA 93711; 800/345-4447 (or Whole Earth Access)



PUBLIC MYTHS,



WENDY DONIGER

INTERVIEWED BY
ADAM PHILLIPS

ILLUSTRATED BY
KRISTEN THROOP

*Trained as a dancer under George Balanchine and Martha Graham, Wendy Doniger went on to complete two doctorates in Sanskrit and Indian Studies (from Harvard and Oxford), and is now Mircea Eliade Professor of the History of Religions at the University of Chicago. Her writings range from translations of Sanskrit poems and Hindu myths to books about hallucinogenic mushrooms, phallic worship, evil, karma, women, dreams, folklore, horses, and myths, including *Dreams, Illusion, and Other Realities* (WER #57, p. 127).*

Adam Phillips is an independent radio producer with special interests in Jewish subjects, mythology, sacred music, and geometry. He conducted this interview for the documentary "The Dream Within: Wendy Doniger and Hindu Myth," commissioned for the William Benton Broadcast Project of the University of Chicago.

I THINK ONE OF THE WONDERFUL THINGS ABOUT A myth is that it mediates between the abstract and your own memory of how you felt when your father died. It combines the point of a philosophical dogma or abstract idea with the vividness of one's own dream and the detail that goes between the two of them. It takes your experience with all the detail

that makes you care — what was he drinking, what kind of wine was it, what kind of dress was she wearing, what was the embroidery like — and then says, "By the way, this is enormously general." It allows you to hold in suspension together your commitment to a really personal experience and your commitment to a philosophical idea, which is "everybody dies," or "an awful lot of people died in WWI." I think that is a power that a great myth has.

In a Hindu story, Markandeya is a human being, trying to find things out; he has a personality and you get to know him. He's a saint and he has his own little world like our worlds. One day he accidentally falls out of the mouth of Vishnu and discovers that he was inside the body of the god all the time. He has this great cosmic vision of the entire universe, of Vishnu's sleeping there

PRIVATE DREAMS



and of him being part of Vishnu's dream, which is again this vision of all the crosses in Flanders fields, or of the enormosity of the universe, and he can't sustain that; no one can live like that.

So Markandeya goes back inside the mouth of Vishnu, back inside the body of Vishnu, and forgets — has to forget — the cosmic vision of how tiny his life is and he becomes caught up in it. That's what god wants. God does not want him to maintain this true vision; he wants him to live his life.

I used to find it very difficult as an adolescent to think about the stars and about how small the planet Earth was, and the galaxy, and all that. You couldn't do that for long. Because you really cared about whether you were going to have pizza that night and whether you were going to have pepperoni or Italian sausage. And at the same time you knew that there were all these galaxies. That's what that myth is about. It's true, of course, that we are inside the body of god and that all these little things don't really matter, but that's a truth that we can't live with.

You never really know which of the lives validates the

other. Am I dreaming that I'm awake, or am I awake and worried that I am dreaming? So, too, when you switch registers from the telescope to the microscope, at any point one world will call the other into question. You say "It's an illusion that I'm seeing god," or else you say, "It's an illusion that I'm living my life and then ordering pizza."

There is no way ultimately of deciding which is the truth. Some say that there's no firm ground to stand on. I say that there are two firm grounds to stand on and that you can choose which one to stand on at any time. I don't find it unsettling; I find it doubly sustaining.

I think stories are much more primary than theories. It always bothers me when people use the word myth to describe a dogma — usually, of course, a false dogma — because the one thing that myth is not is a theory. A myth is a narrative which invites you to construct a theory to explain it or derive a moral from it (cultures always do moralize their myths). But the myth itself is pre-moral, pre-theoretical.

Take the story of Eden: we are told that there is a garden and a tree and a serpent and a man and a woman who

eat the fruit and leave the garden. Now, the traditions that own that story — the Jewish and later the Christian traditions — tell us that we weren't meant to eat from that tree and as a result a lot of bad things have happened. But other traditions tell the same story about the man and the woman and the garden and the tree and tell us that that is the origin of life, that that is the gift that God gives you. The serpent is a great and benevolent deity and knowledge is what you need to begin human life. Our interpretation is that Eve and the serpent were naughty, but the story doesn't say that.

The narrative of the creation of the universe does not tell you why or what its purpose is. It just says, this is what happened — first there was this and then there was that. Religions and scientists say that it happened because and it happened in order that. Each culture dresses it and, indeed, each individual storyteller within a culture tells it in his or her own way. Myth is like the invisible man you can't see unless he's wearing bandages or a hat — you have to dress it up as, say, a Hindu myth with a point. You never see the myth without the moralizing, but from seeing several different versions, you realize that there is no one moral and therefore the story exists without a necessary moral.

That is why science is not adequate. At the most meta-physical level, scientific stories are narratives. You don't really say why things happen. You just say they do happen. Nowadays, for instance, you have someone who's seriously brain-damaged and the doctors tell you if we plug them into these machines they will live for a long time, but they can't tell you whether you should do it or not. The more scientific we get the more we need theologians to figure out what to do about our narratives. The more that becomes possible, the more we have to make decisions about what we want.

A story is a narrative that says something happens — not all stories are myths but all myths are stories. Myths are a particular kind of story, not just a one-person story, but a story which many people understand and share and use to define themselves as the people who have that story. It is our story. A dream, on the other hand, is a very lonely thing. There is nothing in the world lonelier than a dream. It is the most solipsistic of experiences. No one else is with you in your dream. Myth is a way of making a dream shared or public.

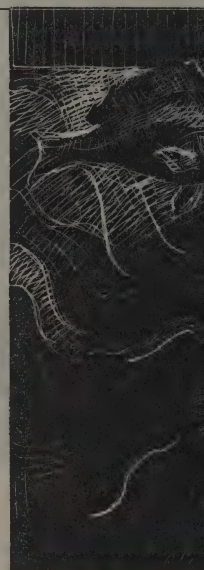
Remember the old argument of American parents who weren't going to read Grimm's fairytales to their kids because people get their heads bitten off and it was going to give their children nightmares? Bettelheim (in his wonderful book *The Uses of Enchantment*) and Maurice Sendak countered that children already have those dreams. One of the things that terrifies a child about having such a dream is that he can't share it with anybody and he thinks that maybe he's really weird, if he had a dream that someone is biting off his head. If you show him a book and you say "This book was from

T here are some of the same imaginative elements in dreams and myths, but their social function is completely different — even opposite. The function of a dream is entirely limited to the dreamer and the function of a myth must be extended to as great a group as possible.

a long time ago, other children have read this book for years, and I read it when I was a child myself," you say, "You're not alone in this." It's no longer a dream, but becomes a myth.

That's what makes a story a myth: a group of people acknowledge that it has meaning for all of them. There is a great comfort in that — it changes you by making you think you are not crazy and alone, that these are scary things but that you are not the only one who ever thought of them. You see it in support groups, people feeling better about whatever is driving them crazy just by being in a room with other people who are driven crazy by the same thing. One of the basic, precious things that a myth does is to join your fantasy into a group.

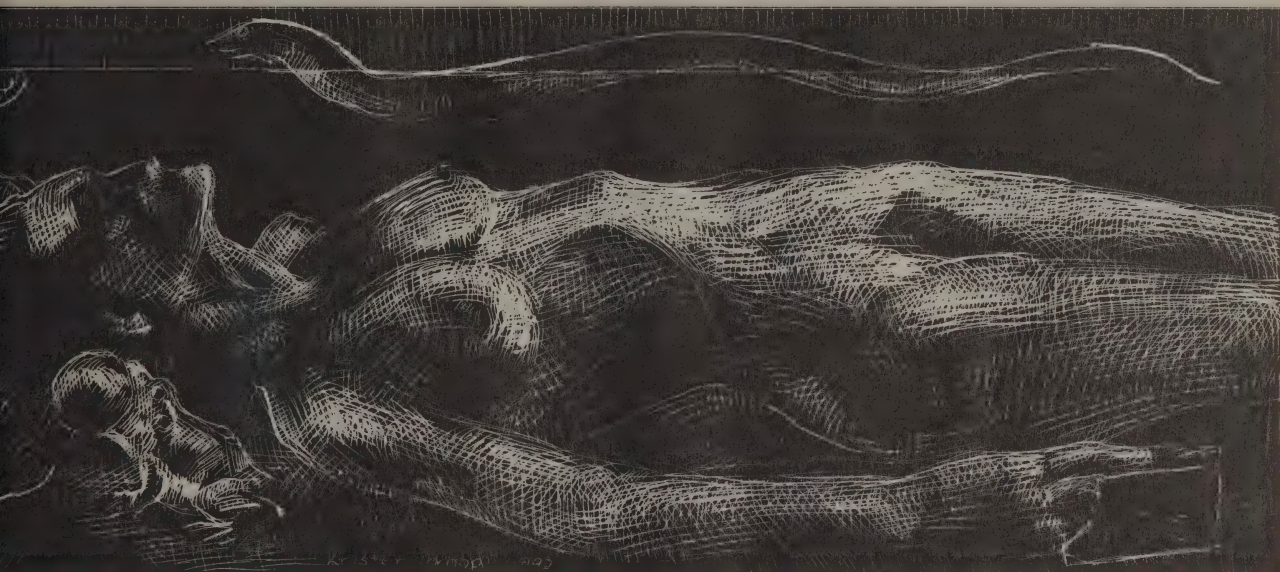
A dream is like a myth in that it is often a narrative and that it uses symbols. There are some of the same imaginative elements in dreams and myths, but their social function is completely different — even opposite. The function of a dream is entirely limited to the dreamer and the function of a myth must be extended to as



great a group as possible. They are using the same vocabulary but they are saying very different things. A myth is a conscious creation. Myths are not constructed out of a subconscious. They may be using subconscious and unconscious materials, but a myth is controlled — it is art, structured, the work of the superego — and a dream is the work of the id.

Myths seem to come from nowhere. Dreams come from you. If you dream about a chocolate ice-cream cone, I have to say to you, "Adam, what is it with you and chocolate ice cream?" You could make it into a story

like Proust did and say, "Every time I have a chocolate ice-cream cone, I dream about my childhood." Then we read your book and we all know that chocolate ice cream becomes a symbol of Adam remembering his youth. When it is a chocolate ice-cream cone in your dream it has only meaning to you. If you publish it and it becomes a famous story, all the people who read it know it. But it is still coming from somewhere. It's Adam Phillips' story about the chocolate ice cream. You have to do a lot of work on that chocolate ice cream before it becomes universally acknowledged as a symbol of the remembrance of a lost past. ■



How to Remember Your Dreams

by Adam Phillips

Everyone dreams and wakes several times during the night, with the deepest dreams occurring halfway through a three-hour periodic sleep cycle. If you usually remember only the dream you had just before waking in the morning, it's probably because you allowed yourself to wake only very partially during the night and slipped right off, promptly forgetting everything.

If you're interested in remembering more of the show, here are a few tricks:

Buy a cheap, Radio Shack-style cassette recorder and put it within very easy reach. After you climb into

bed and turn out the light, take a moment to clear your head of at least some of its yaketty-yak through relaxation. Then, make a conscious decision to remember what you dream, and carry this intention with you across the vale into sleep (this gets easy after a little practice).

When you wake, resist the urge to go back to sleep. Avoid any unnecessary external stimulation, and restrict physical movement to the absolute minimum necessary to grab the tape recorder, turn it on (preferably with one hand) and recount the dream. Consider everything relevant; include lots of detail, sensations,

emotions, colors, etc. Don't worry about getting it into logical order, and don't analyze too much. That's daytime stuff. Keep your eyes closed and take your time. Let yourself drift (while taking care not to doze off). The dream will show the way. When you're satisfied, shut off the machine and go back to sleep. Repeat.

You'll be amazed at how many dreams accumulate on your tape. Set aside some time the next day — mornings are best — for listening to the tape and reconstructing the sequence. Keep your dreams in a special dream book, or type them into a computer. ■

Other Peoples' Myths

This fascinating and scholarly study examines two kinds of "other peoples' myths": both those they tell about each other and those they tell about what might be called the Other. Generally, myths about the Other are about strangers, animals, children, and — most Other of all — the gods. These archetypes comprise elements of the strange and the familiar, the known and the unknown. This netherworld is a main stomping ground of the mythic imagination.

The myths and stories that people concoct are often as beautiful (and almost as diverse) as anything else that nature offers us; this "travelogue" of other peoples' myths is absorbing for that reason alone. The myths of others can also deepen our self-knowledge, because in them, according to O'Flaherty, "we see not just what they think they are but what we think we are as distinct from them." The need to construct narratives about life's great unanswerables is itself an irreducible fact of life. Myths about stories, and especially the stories people tell about the stories of others, are this book's special meta-theme.

—Adam Phillips



Other Peoples' Myths

Wendy Doniger O'Flaherty, 1988; 225 pp.

\$19.95 postpaid from Macmillan Publishing Co., 100 Front Street, Riverside, NJ 08075; 800/257-5755 (or Whole Earth Access)

We are left, then, sometimes with no myths, sometimes with myths emasculated of their rituals, sometimes with bad myths that trap us within the cybernetic cage of our own myths/rituals and lives, each giving rise to the other. But we may break out from all of these various prisons with the help of other peoples' myths, which, coming from outside our own closed system, may provide an external influence, an anti-inertial force, to move us off our own treadmill, our own track, onto an entirely new path. New myths move us into new worlds where we can begin to think thoughts that not only were impossible to think within

our old familiar world of ideas but that we could not even realize we had been unable to think in that world. In this way we are sometimes able to change both our myths and our lives — or at least to give new myths to our children.

In Sanskrit texts, the bard may recite a myth in a certain way, only to be interrupted by someone in the audience to whom the tale is being recited, who argues, "We heard it differently." When the person in the audience tells that second version, the bard replies, "That is true, too, but your version happened in a different world era" — or, in some stories, "in a different rebirth." That is, the same event happens over and over again, but it may not happen in exactly the same way each time, and each happening is true. Moreover, what makes an event in India important is not that it happened at a particular time or place (which is what makes a historical event important in the West), but precisely the fact that it has multiplied, that it has happened many times in many places. Marx remarked that history repeats itself, and that the first time is tragedy, the second time farce. Myth repeats itself too, of course, but unlike history, it follows no evolutionary course; any of its countless retellings may be tragic or comic at random.

The Jungian-Senoi Dreamwork Manual

This is the most comprehensive hands-on manual I've ever seen for exploring the strange world of one's dreams. It's Jungian in that it assumes that dreams are inherently meaningful, and that the dream itself should point to its own personal (and often transpersonal) meanings. It's Senoi (a Malayan tribe that may have based all family and community decisions on dreams) in that it teaches the dreamer-student how to identify with the "dream ego," and how to direct a dream to enhance awareness and effectiveness in one's "outer reality." The manual includes over 35 step-by-step methods for keeping a dreamwork journal, reentering the dream state after waking, "dialoguing" with dream figures, lucid dreaming, and "objectifying" the dream.

—Adam Phillips

The golden rule of dreamwork might be stated as follows: *To get to the meaning of dreams, actualize dreams rather than interpret them.*

Actualizing one's dream brings one closer to the dream. Interpreting one's dream distances one from the dream. The meaning of a dream comes from the dreamer's re-experiencing the dream and not from what someone else may say about it.

Actualization is the re-experiencing of a dream, or some aspect of it, with similar

or greater emotional intensity than that of the original dream. Actualization also refers to gaining meaning from a dream by doing specific outer-life projects which embody some part of the original dream. Thus we include under the term 'actualization' both re-experiencing the dream in itself and transforming the dream into specific outer-life experiences.

In dreams we characterize the dream ego as usually the image of oneself. But this may vary. For even more central than image is the awareness of an 'I' or centre of awareness and action. Thus people have reported themselves in dreams as being the opposite sex, animals and inanimate objects such as chairs and dinnerware.

How many egos are there involved with the dream state? We have the dream ego itself, the image of ourselves as interactant in the dream. We have a 'non-ego' in which we experience a dream but without ourselves in it.

We have the observing ego, that centre of awareness which sees and remembers the whole dream and maintains it in consciousness into the waking state.

We may have in the other characters in the dream aspects of our egos. Certainly these characters embody attitudes, sometimes quite contradictory ones, to the dream ego's attitudes. And other characters may make choices or have feelings in the dream.

Is there an essential difference between the dream ego and other beings in the dream?

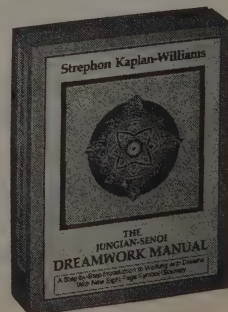
Perhaps every dream has aspects which are unclear or puzzling to the conscious mind. There seems, even, to be an intention on the part of the 'dream originator' to present situations which require activity by the conscious and unconscious sides of our personality in order to clarify them. Discovering the issues can be based in part on using the following *central questions* as the focus for beginning your dialogue.

- What, or who are you?
- Why are you in my dream?
- Why are you acting the way you are?
- What do you have to tell me?
- What do you want from me?
- What is your gift to me?
- What questions would you ask of me?

Jungian-Senoi Dreamwork Manual

Strephon Kaplan-Williams, 1989; 328 pp.

\$17.95 (\$19.95 postpaid) from Journey Press c/o Publishers Services, P. O. Box 2510, Novato, CA 94948; 415/892-4112 (or Whole Earth Access)



The new
dreamer
will sing
to the mind
w/thoughts
unclutched
by speech.
Pirate mind
stations.

Jim Morrison

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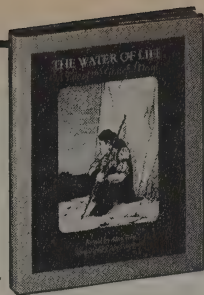
The Water of Life

Alan Trist has written a story "for children of all ages" whose medieval setting frames themes and images that speak directly to the present-day heart.

"The 'grateful dead' term goes back perhaps two thousand years," according to Trist. "When the band chose that name in the sixties, they were choosing a very old myth to call themselves by. My purpose in writing this book was to bring that out and make people aware of it.

"The Grateful Dead theme is what folklorists call a 'helper' motif," says Trist. "The grateful dead man is somebody who helps the hero on his journey, his quest, which will take many forms."

The Water of Life is a simple story. A kindly king's illness is felt everywhere in the realm: crops fail, waterfowl do not visit the ponds, and so on. The physician tells of the one possible cure — the Water of Life — but adds that "many have gone in search and none has come back." He who goes in search of the Water of Life "must show kindness, courage, presence of mind . . . and be willing to take advice." The king's eldest son sets out to find the Water of Life, but his motives are impure and he does not return; nor does the second son. Then the third son, "humped of back and weak of eye," takes up the quest. Along the way, the



The Water of Life

(A Tale of the Grateful Dead)
Alan Trist, 1989; 43 pp.

\$12.95 (\$14.95 postpaid) from Hulogosi Communications, Inc., P. O. Box 1188, Eugene, OR 97440 (or Whole Earth Access)

prince pays the debts of a dead man and sees to his burial, and all through his journey he is aided by the spirit of that grateful dead man.

The story works as a story and resonates as a myth. I liked the "misfit power" aspect of it; the selfish brothers ride off and get stuck, and the ugly one with the heart of gold has some fabulous adventures and comes home with the cure and the girl. It has morality but it isn't moralistic. You get out of it what you put into it, just like Grateful Dead music.

—David Gans

Now, in the castle dwelt a beautiful prin-

cess called Kate, held captive by the ogre because she refused to marry him. Often the prince had looked upon her beauty with wonder. His heart went out to her . . . but the power of the spell the ogre had cast was such that the thoughts of the moment were left in the hour in which they had arisen, so that he never remembered from one day to the next that he loved her.

Unknown to him, Kate had an eye which could look directly into the heart. She had never laid this eye upon a purer heart than that of the son of the wounded king.

At the feast of departure the ogre said, "The princess sits beside me pale and unsmiling. I cannot endure her sadness and reproof any longer. No music has ever moved her. If you can make her forget her sorrows and dance, I will give you a reward, remarkable man that you are, and this shall be your choice of anything in my kingdom you should desire."

The prince said, "If I could perform this service, my heart would be glad for her sake." Whereupon, he took out the magic lute and carefully removed its covering of jet black otter fur, lined with softest doe skin. He unwrapped the fine linen, white as the swan's throat, which covered the strings. Then he played a song of such beauty and variety of mood that everyone present, from courtier to scullery maid, felt the sap of life course in their veins and saw, if only for a moment, the lovers of their dreams come forth to join the dance.

Keepers of the Earth

The meat of this set is the fine selection of Native American stories from the US and Canada in the main volume, but the soul is in the slim teacher's guide, where the authors discuss the meaning of stories in Native American cultures and talk about environmental education as necessarily including feelings and values, as well as information. —Nancy Schimmel

How Coyote Was the Moon (Kalispel — Idaho)

A long time ago there was no moon. The people got tired of going around at night in the dark. There had been a moon before, but someone stole it. So they gathered together and talked about it.

"We need to have a moon," they said. "Who will be the moon?"

"I will do it," said Yellow Fox. They placed him in the sky. But he shone so brightly that he made things hot at night. Thus they had to take him down.

Then the people went to Coyote. "Would you like to be the moon? Do you think you could do a better job?"

"I sure would," Coyote said. Then he smiled. He knew that if he became the moon he could look down and see everything that was happening on Earth.



Drawing from a Hopi petroglyph that represents Mother Earth.

They placed Coyote up in the sky. He did not make the nights too hot and bright. For a time the people were pleased.

"Coyote is doing a good job as the moon," they agreed.

But Coyote, up there in the sky, could see everything that was happening on Earth. He could see whenever someone did something they were not supposed to do and he just couldn't keep quiet.

"Hey," he would shout, so loudly everyone on Earth could hear him, "that man is stealing meat from the drying racks." He would look down over people's shoulders as they played games in the moonlight. "Hey," he would shout, "that person there is cheating at the moccasin game."

Finally, all the people who wished to do things in secret got together. "Take Coyote

out of the sky," they said. "He is making too much noise with all of his shouting."

So Coyote was taken out of the sky. Someone else became the moon. Coyote could no longer see what everyone on Earth was doing, but that hasn't stopped him from still trying to snoop into everyone else's business ever since.

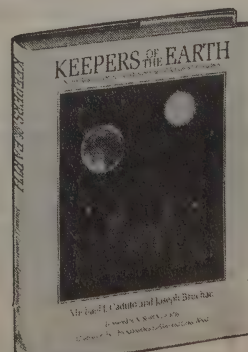
Keepers of the Earth

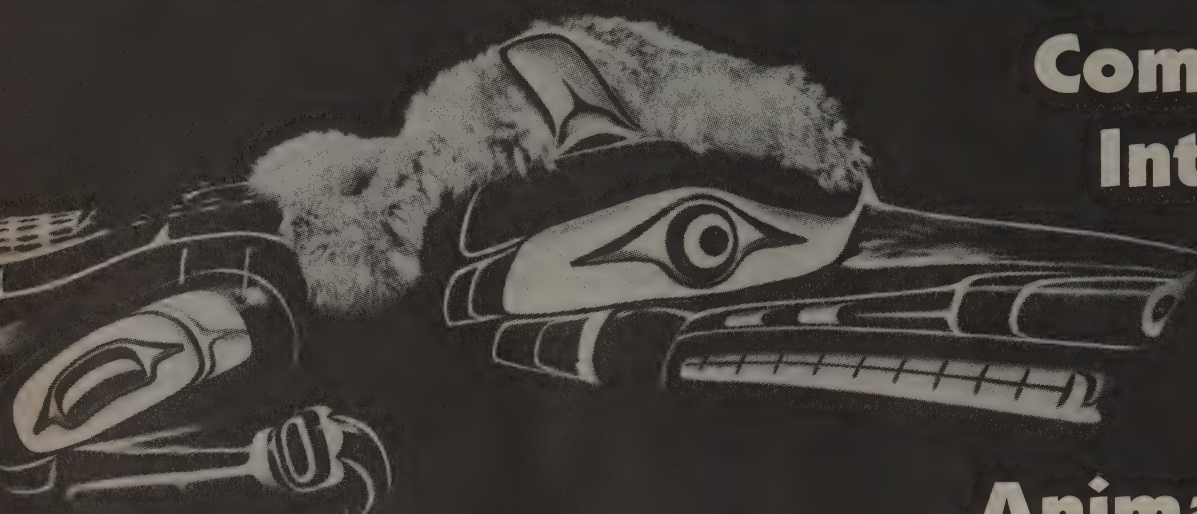
(Native American Stories, with Environmental Activities for Children)
Michael J. Caduto and Joseph Bruchac, 1989; 209 pp.

\$19.95 (\$21.95 postpaid)

Teacher's Guide

\$9.95 (\$11.95 postpaid) from Fulcrum Publishing, 350 Indiana Street #350, Golden, CO 80401; 800/992-2908 (or Whole Earth Access)





Come Into

Animal Presence

**Interview with
James Hillman**

**by Jonathan White
and Donna Sandstrom**

*James Hillman is a Jungian analyst and the author of several books, including *The Dream and the Underworld*, *A Blue Fire*, and *Revisioning Psychology*. He was interviewed on board the *Crusader*, a 65-foot wooden schooner, for the seminar "Come into Animal Presence: Animal Images in Dreams and Psychic Ecology." Present in Frederick Sound where the boat was sailing were humpback whales, salmon, seals and porpoise.*

*Jonathan White is the founder and director of the Resource Institute (6532 Phinney Avenue North, Seattle, WA 98103; 206/784-6762), a nonprofit, educational organization focusing on Northwest coastal (including the San Juan Islands and southeastern Alaska) culture and traditions. Poet Gary Snyder, marine biologist Roger Payne, and psychologist Rollo May are among those who have given seminars aboard the Institute's *Crusader*. Jonathan and Donna collaborated on the interview with Robert Bly in WER #70.*

—Sarah Satterlee

ANIMALS have done so much for us for thousands of years. They've brought us food, they've brought us dances, they've brought us wisdom, they've brought us all the technical skills. Who taught us to make a halibut hook? See, this is the way that people think — "Oh boy, some smart guy named Joe Jones — what a good idea. He invented that little thing, so that we could catch halibut more quickly. So we call it the Joe Jones hook."

But originally, the people who lived with halibut, and whose life depended on them, watched them so much that the halibut taught them how to make the hook. So we owe the halibut for the instrument to catch it. And we owe the deer for the way to hunt it — how to walk stealthily, how to walk downwind. They taught us all those things. We wouldn't know about "downwind" — how would we know anything about that? No reason to — they taught us.

Animals come in our dreams, helpers and saviors; as teachers, again. We still are inflated to think we're saving them, but they may be teaching us about saving. What happens to our hearts when we see them wounded or hurt? That's a turning point, when the animal is hurt. They teach us something through their woundedness; that they're threatened and endangered and wounded. They're beginning to convert the world! The animal-rights movement, save-the-extinct-species, World Wildlife — all those movements that have sprung up over the last thirty years — have changed consciousness enormously with the images of dead elephants and so on. This spotted owl is

**Wolf mask by
Kwakiutl sculptor
Willie Seaweed
(from *Indian Art
of the Northwest*).**

saving the forest. Take it as a myth — don't take it as a law. Of course it's a legality, in that it's the only way we could get it through the court system. But if we were telling the tale, the spotted owl is saving our forest.

Animals correspond with part of us. The bear dream that one man had corresponds with his own earthy, shaggy nature, therefore he can feel an affinity. But that bear is not his own shaggy nature. That reduces the bear to just a piece of himself, and insults the bear — it interprets the bear away. The presence of the bear in the dream corresponds with qualities of the human soul, but is not reducible to it. The animal in the dream is a presence that corresponds with some interiority of your own self — your own wolf, for example, your relation to wolf, whether it's insatiable appetite, or constantly tracing and pursuing, or loneliness, or something of that wolf quality. And at the same time it's a presentation of the divine wolf, the wolf god, the wolf totem, the wolf ancestor, who may be bringing you to more intensity in regard to those qualities.

The question is, what does the wolf want? Why did it bother to come to me? Is it trying to remind me of my own wolfishness? If the animal is an ancestor, then it's going to bless those qualities. It's going to give them an archetypal background. My loneliness, my constant trekking and feeling an outsider, is blessed by the wolf's appearance. Or take the fox — my cleverness, my sneakiness, and my trying to raid everything that happens and getting into all the chicken houses. Instead of saying, "This is my psychopathic shadow, this is my sex complex," the fox comes and says, "This is part of nature, this is where we connect." Then you have more respect for that part of yourself, and you begin to try to live it right. ■

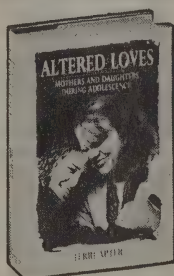
Altered Loves

According to traditional psychological theory, the storms of adolescence are the result of teenagers' attempts to separate themselves from their parents and become individuals in their own right.

Terri Apter's original purpose in conducting the research that became this book was to explore these processes of separation and individuation in adolescent girls. What she found, however, through numerous interviews, was that the basic theory doesn't apply to girls: rather than trying to separate, girls are in their moms' faces, demanding acknowledgement and agreement with their emerging definitions of themselves.

For me, being the mother of twin teenage daughters is sometimes excruciating, sometimes passionately exhilarating, and almost always confusing. I look back on my relationship with my mother and wince at what I put her through, yet I still carry forward a desire for much of what I see my daughters demanding from me — approval, admiration, respect, etc.

Despite the occasionally academic tone and British misconceptions (a young girl dressed as a Deadhead is described as an aspiring drug user and pusher), *Altered Loves* puts this all in a plausible context of necessary struggle, providing compassionate insight into the moils and toils of both mothers and daughters, and



most of all, comfort that neither you nor your daughter are alone through these tempestuous times. —Sarah Satterlee

Altered Loves

Terri Apter, 1990; 280 pp.

\$24.95 (\$26.45 postpaid) from Publishers Book & Audio Mailing Service/Order Dept., P. O. Box 120159, Staten Island, NY 10313; 800/288-2131 (or Whole Earth Access)

I was introduced to adolescence as a demon, and as a mother's curse at a very early age, an age so early I cannot begin to name it. My mother, a medical professional, was an innocent devotee of psychoanalytic theory, and faced me with the following prediction:

"You won't listen to a word I say. You'll think everything I do is wrong."

"When?" I demanded. . . .

"When you're 14," she concluded after a moment's pause, during which time she

had raised her chin thoughtfully to look at that future which seemed to be residing just above my eye-level.

Yet in fact the terrible event struck earlier than even her dire predictions. It came silently, and privately, causing her no immediate harm and effecting no enormous change. It simply drove a tiny wedge between the way I had agreed to look upon her, and the way I soon discovered she could be seen.

As the daughter becomes a harsh judge of the mother's "mirroring" or validating responses, the mother feels herself under attack, and in her defensiveness she can no longer uphold the previous views of her adolescence. She can no longer see her adolescent self so clearly in the right, and her mother as clearly wrong. No longer convinced of the validity of her adolescent anger, she no longer remembers it clearly. As her assessment of that time changes, her memory dims, since the memories no longer make sense to her. Her memory makes amends to her own mother, blurring their battles, and finally erasing the wounds. If such memories do linger, they are a source of pain, for she glimpses through them to her daughter's future complaints about her, complaints she knows she cannot and should not avoid. In self-protection, and to retrieve her past with her own daughter, she looks back to earlier times with her mother, when the attachment was easier.

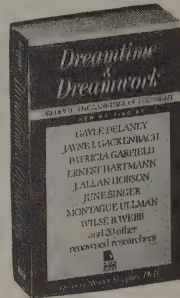
Dreamtime and Dreamwork

This veritable Who's Who of modern dream research includes contributions by 28 specialists. Psychiatrist Montague Ullman offers keen insights on effective dreamwork in groups. Neuropsychiatrist J. Allan Hobson explores his research on dreams as random neural firings. Psychologist Gayle Delaney reveals how to introduce successful problem-solving techniques into your dreamlife. And Patricia Garfield shares a sensitive view of how women can discover more about themselves from their dream body images. These essays range from the empirical sleep laboratory to the remote, spiritual dream shaman. The book contains a thorough examination of dreamwork as it is used in therapy, problem-solving, art, education, understanding gender differences and sexuality, and historical perspectives. Other topics include dream use in other cultures and the latest in dream research and dream breakthroughs as they relate to personal growth and development. —Cindy Cosgrove

Dreams start with the tensions and pre-occupations we bring to bed with us at night. To what extent can we reconstruct the recent past to shed light on these emotional currents? What aspects of our recent past left us with emotional residues? What feelings or thoughts surfaced in our mind just prior to falling asleep? The dream is a continuation at night of feelings stirred up during the day. Any technique that professes to work with a dream without stressing the importance of identifying the recent emotional context will fall short of

embedding the imagery in the concrete life situation of the dreamer and will run the risk of superimposing theoretical or speculative ideas on the dream to fill in the gap.

The activation-synthesis hypothesis proposes that dreams result from attempts by the higher brain centers to make sense of cortical stimulation by lower brain centers. Dreams take the stimuli produced by these dream generators and use the images as story material. Any number of psychological functions can be superimposed upon the process — integrating daytime experiences with those memories already stored away, allowing the dreamer to deal with upsetting ideas and events, addressing one's unsolved problems, and coming up with tentative solutions. Dreaming in relation to REM sleep provides us with a remarkable mirror of our inner selves, but it is basically a neurobiological process. And



Dreamtime and Dreamwork

Stanley Krippner, Editor. 1990; 320 pp.

\$12.95 (\$15.95 postpaid) from Jeremy P. Tarcher, Inc., 5858 Wilshire Boulevard / Suite 200, Los Angeles, CA 90036 (or Whole Earth Access)



A dream which is not understood is like a letter which is not opened.
Talmud

the nature of this process must be honestly faced by those who attempt to work with dreams and the information they provide.

Those who have no routine sexual outlets may have particularly powerful sexual dreams as compensation for waking-life deprivation. John Money's study reported in the *Archives of General Psychiatry* described twenty-one paraplegic men and women whose vertebral nerve fibers were severed. Despite complete genital paralysis, these fourteen men and seven women experienced "phantom orgasms." They had dreams with vivid orgasm imagery in spite of the absence of physical sensation and paralysis of the genital area. The sleeping brain is capable of achieving these "dry dreams" or mental orgasms, hallucinations that feel like real orgasms, devoid of ejaculation. Clearly, whether sexually abstinent by choice or by accident, no one has to forego sexual pleasure.

Exploring the World of Lucid Dreaming

My problem with lucid dreaming: as soon as I realize I'm dreaming the imagery shimmers iridescent, then disappears completely, and I find myself awake. I hadn't realized this was a common problem until I read this book. The authors provide techniques for overcoming my difficulty, staying in the dream and prolonging it. There are a lot more techniques in this solid how-to book. Stephen LaBerge is the scientist who revived dream research with his ingenious method for studying lucid dreaming in the lab. With Howard Rheingold, he's produced a book with the latest scientific findings in a readable, useful format. For amateur dream researchers, this is a must.

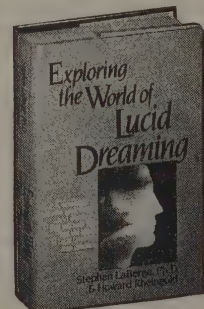
—Corinne Cullen Hawkins

One of the earliest experiments conducted by my research team tested the traditional notion that the experience of dream time is somehow different from time in the wak-

ing world. We approached the problem of dream time by asking subjects to make an eye movement signal in their lucid dreams, estimate a ten-second interval (by counting one thousand and one, one thousand and two, etc.), and then make another eye movement signal. In all cases, we found time estimates made in lucid dreams were within a few seconds of estimates made in the waking state and likewise quite close to the actual time between signals. From this we have concluded that in lucid dreams, estimated dream time is very nearly equal to clock time; that is, it takes just as long to do something in a dream as it does to actually do it.

There may be physiological constraints on a lucid dreamer's actions, deriving from the functional limitations of the human brain. For example, lucid dreamers appear to find reading coherent passages virtually impossible. As the German physician Harald von Moers-Messmer reported in 1938, letters in lucid dreams just won't hold still. When he tried to focus on words, the letters turned into hieroglyphics. (Note

that I am not saying we can never read in dreams. I myself have had dreams in which I have done so, but these were not lucid dreams in which the writing was being produced in response to voluntary intention.)



Exploring the World of Lucid Dreaming

Stephen LaBerge and Howard Rheingold, 1990; 277 pp.

\$18.95 (\$20.95 postpaid) from Random House/Order Dept., 400 Hahn Road, Westminster, MD 21157; 800/733-3000 (or Whole Earth Access)

Control Your Dreams

The title is misleading; this isn't a how-to book. The authors give an overview of all the current streams in lucid dreaming, from lab research to the discoveries of intrepid dreamers working on their own. The main approaches to inducing lucidity and working with it are covered, with some examination of underlying assumptions (what lucidity "means," why it is or is not valuable, what it says about consciousness). One section compares lucidity to out-of-body experiences, near-death experiences, and meditation.

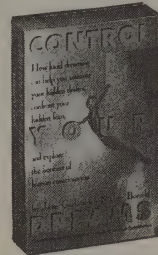
This is still wide-open, Wild West territory, with snake-oil salesmen mingling with the honest folk. Since the authors don't differentiate clearly between the opinions of individuals based on anecdotal sources and lab-tested, verified hypotheses, absorb with a grain of salt. Despite this quibble, the book is well worth reading. You won't find this wide a range of lucid dream material elsewhere.

—Corinne Cullen Hawkins

• Even prolific lucid dreamers have sometimes noticed the limitations of dream control. "At best," says Kelzer, "the lucid dreamer is able to take charge of his [or her] personal experience within the dream but is not actually able to control the dream-landscape itself to any great extent." Hunt goes even further and suggests that some attempts at control can dampen the experience by turning the dream into a nocturnal laboratory in which to perform experiments. Only by pursuing lucidity as "something" in its own right do the expansive feelings of a peak experience occur.

• Obviously, lucid dreaming is not a panacea for life's problems. And it will never replace traditional psychotherapies. Indeed, working with lucidity may be most beneficial when it's used in conjunction with other therapy and perhaps when it is used in moderation. The whole issue of whether to control dreams or not is one of great concern among dream researchers. Complete control of dream content is probably not even possible. As Jungian analyst

James Albert Hall has observed, "The waking ego is like a gatekeeper who can permit or deny entrance into the boundaries which he guards, but who is powerless to command the appearance or disappearance of a particular entrant (content), however much he might desire it."



Control Your Dreams

Jayne Gackenbach and Jane Bosveld, 1990; 224 pp.

\$8.95 (\$12.45 postpaid) from Harper-Collins Publishers/Order Dept., 1000 Keystone Industrial Park, Dunmore, PA 18512; 800/331-3761 (or Whole Earth Access)

The Sun and the Shadow

• Pathway to Ecstasy

Okay: you've got the knowhow and you're ready to explore lucid dreams. Here are a couple of books to inspire you: autobiographical accounts by lucid-dream pioneers who explore their personal dreamscapes with passion and commitment. Your own journey may be nothing like theirs — dream reality is unique to each person — but the way these two explore the interior landscape will give you clues to finding your own approach.

In *The Sun and the Shadow*, Ken Kelzer relates a series of his lucid dreams exploring and developing his aggressive side. Dream life/waking life form a whole as dreams relate to everyday hassles through powerful metaphor. Though conventional religion would probably not see this as particularly spiritual, the end result for Kelzer is an experience of the Light of God.

Patricia Garfield inhabits a dreamscape more sensual and passionate than Kelzer's, but one just as closely tied to her waking life. Through dreams, Garfield lays open her personal history from childhood on, focusing on particularly rich dream images that triggered change in her waking life. These she incorporated into a mandala to help her focus on personal growth. —Corinne Cullen Hawkins

• Was this dream, perhaps, going to supply some missing piece to my longstanding puzzle? For over three years I had been

searching in vain for an answer as to how I could have dealt with the young bullies next door. I was very impressed when I saw how the rambunctious bulls were finally stopped in my dream. As I reflected on the principal characters of this dream, I began to collect some valuable observations. The first three or four waiters, dressed all in white, who rushed in and tried to grab the bulls were easily and promptly tossed aside. These young men symbolized the "Mr. Nice Guy" part of my personality. They had good intentions (they wore white); they put out a lot of energy and gave their all, but they were totally ineffective. They were ineffective because they were *too gentle* in a potentially

violent situation and did not apply the necessary force and highly focused skill that such a situation calls for. What was needed to stop the bulls in my dream (and the teenage bullies next door in my waking world) was a type of raw, personal power, freely used, highly focused, with full attention placed on the precise spot where the adversary could be hit and stopped, as if struck in his Achilles heel. I was stunned and pleased to realize the special significance of the head waiter, the man who wielded the axe! *He was the missing piece to my puzzle!* —*The Sun and the Shadow*

• As my experiences in these altered states of consciousness, lucid dreaming and out-of-the-body trips (if that is what they are) gathered force, I needed to make sense of them. It no longer seemed to matter to me whether these worlds are within or without, whether they are in a physical location or in a different state of consciousness. They are a universal human experience and, as such, are real. A pattern was emerging that was crucial to capture and share. I thrashed about in my mind for an understandable way to translate these experiences. Dreams are so visual, their translation should be visual, too. Not words, not lists, not charts, but pictorial symbols that would convey the essence of the experience.

I devised, at last, the Way of the Dream Mandala, a kind of paraphrase, not a duplication, of the original Tibetan pattern upon which it is based. The Dream Mandala, personalized with one's own dream images, becomes a chart for self-discovery. It gives a sighting on the self — the beautiful, ever-shifting, growing bit of life force that is us.

—*Pathway to Ecstasy*

The Sun and the Shadow

Kenneth Kelzer, 1987; 273 pp.

\$9.95 (\$12.20 postpaid) from A.R.E., P. O. Box 595, Virginia Beach, VA 23451

Pathway to Ecstasy

Patricia Garfield, 1979, 1989; 253 pp.

\$12.95 postpaid from Prentice Hall Press, 200 Old Tappan Road, Old Tappan, NJ 07675; 201/767-5937 (or Whole Earth Access)



Old Stories, New Media

by Abbe Don

We've been hearing for years that the increasing information-storage capacity of personal computers will lead us, in the not-too-distant future, to desktop multimedia encyclopediae that will include voices and video and animated graphics as well as the standard text material. The technologies are indeed marching our way, although they are still marching around the research and development laboratories. Those who are experimenting with this new form of packaging knowledge have found that the art of storytelling might be necessary to help people find their way through these vast multimedia archives. I found out about this curious merger of ancient and modern knowledge when I did some consulting work for Apple Computer's "Guides" research project.

The Guides project is an experimental demonstration of the use of narrative metaphor and anthropomorphic agents for browsing a multimedia database composed of text, color graphics, and video stories related to American history from 1800 to 1850. The Guides are characters drawn from this period who appear in the user interface to the database. These fictional characters are explained to the user through video stories that pop up on the computer screen and establish the identity of their characters and their points of view. In addition to delivering stories, the Guides make recommendations regarding which database items the user might want to examine next.

I asked three of the principals involved in the Guides project to write brief essays about the intersection of storytelling and multimedia. This first essay is by Abbe Don, a graduate of NYU's Interactive Telecommunications Program, a consultant to Apple, and a pioneer in the exploration of multimedia as a narrative medium. She can be reached via e-mail: abbe@well.sf.ca.us

—Howard Rheingold

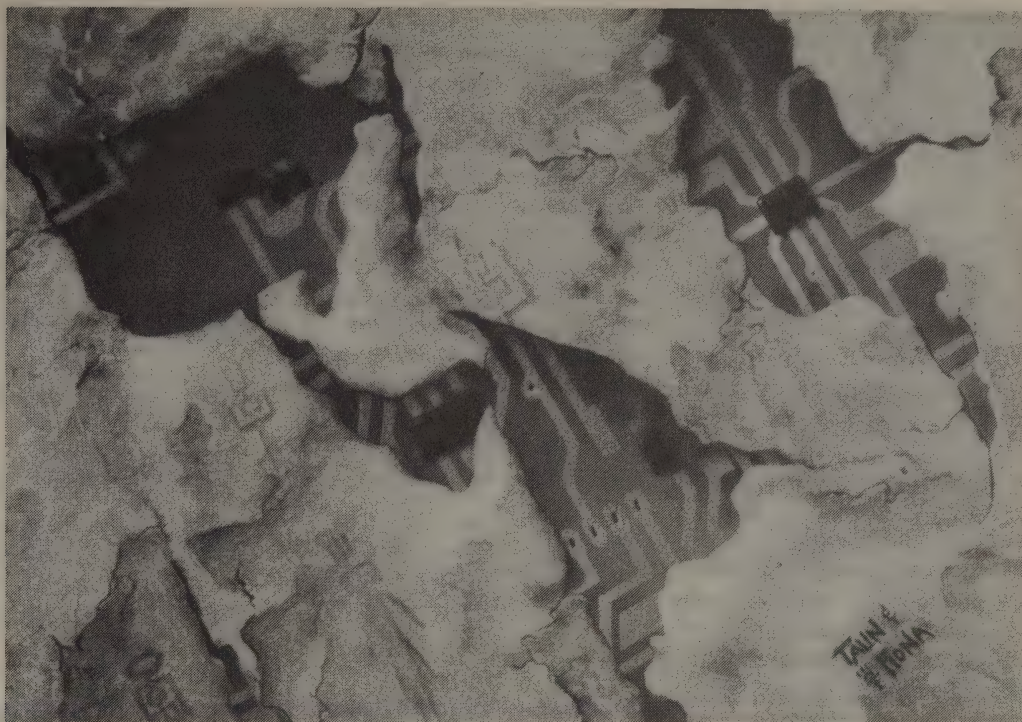
“I

SPOKE in the house Yiddish, but when I played with the neighbor's children I spoke Lithuanian. Just like when I came here, I spoke to my mother Yiddish, but I talked at school English. In the old country, the Lithuanians we got on with ok. We were only afraid of the Russian Cossacks. One time, we had a 'tcholent' cooking in the oven. The oven was in the wall on the outside. We didn't cook on Shabbos so we would make a 'tcholent' in an earthen crock and let it cook from sundown to sundown. Everybody did. You could smell in the whole area the aroma. And one morning, we woke up, and there's no food. Days later, my brothers were walking in the open fields, and they found smashed to pieces the crock."

—Annie Shapiro

My great-grandmother Annie told stories to nearly anyone who would listen as she baked challah in her kitchen or waited on customers at the family-owned jewelry store. She could simultaneously weave several stories together, changing her tone depending on the audience, pausing to answer the phone, then including the caller, whose husband was a "schlemiel," in the fabric of the story. While my grandmother Rita grew impatient, complaining, "Ma, always with the same stories. Enough already, we've heard this before," I was fascinated by the rhythm of Annie's speech, her Yiddish accent and quirky sentence structure, and the way she cocked one eyebrow as she pushed her head forward as if she was confiding these details for the first time. "Tell us about the time the Cossacks took your clothes," I pleaded. "What about the cow . . . did your mother really have her own cow for kosher milk right in the city?" knowing that the facts about the cow were not nearly as important as the story about the cow.

*illustration
by Allison
Hershey*



As I listen to the stories on audio-cassette now, seven years after her death, I realize that she prided herself on how "Americanized" she had become while maintaining a strong sense of Jewish identity. Living between two cultures, she created a sense of self rooted in personal experiences, a strategy common among people who leave a homeland to which they cannot return. Telling stories enabled my great-grandmother to construct and transmit an evolving cultural framework, making sense of and adapting to the rapid changes in the world around her.

For my great-grandmother, the matriarch of a large family, personal storytelling was an effective and accessible tool for cultural transmission. As the oldest daughter of her oldest daughter's oldest daughter, I have tried to combine the records of my great-grandmother's oral storytelling with new tools, such as interactive video, now that the family has dispersed to various

cities, become increasingly secular, and turned its media-savvy attention to television and computers.

Interactive video also makes it easier to represent the idiosyncratic contents, structures, and rhythms commonly heard in casual, personal storytelling. Often, these personal anecdotes do not follow conventional narrative strategies for "good stories" which set the scene, increase the pace of the action, lead to a conflict, and culminate in resolution with a straightforward, easy-to-identify beginning, middle, and end. Limiting ourselves to these criteria as the makings of a good story closes us off to a range of experience not easily represented by conventional linear media.

In order to simulate both my great-grandmother's narrative style and the interplay with her audience, I created "We Make Memories," an interactive video that uses Hyper-Card software running on a Macin-

tosh computer, linked to a 30-minute videodisc. The viewer can scroll through a timeline of collaged family photographs from 1890 to the present on the Macintosh screen. At any point, the viewer can click on a small head shot representing each generation in order to hear a story from my great-grandmother, my grandmother, my mother, or me, to gain an understanding of how our matrilinear family history has been constructed and passed down.

When the piece is shown publicly, it frequently acts as a catalyst for viewers to share their own family stories. In response to these reactions, I am now working on "Share a Story," a companion piece to "We Make Memories" that will enable viewers to scan in family pictures with a flatbed scanner, add stories by digitizing their voices, and incorporate their contributions into an evolving portrait. Participants will also be able to hear and view the stories of their cocontributors, continuing the cycle of cultural

transmission and intercultural understanding.

While "We Make Memories" is a small, personal project, the Guides project conducted at Apple Computer, Inc., is a large multimedia database on the subject of 19th-century American history, with an emphasis on westward expansion. As a collaborator on the Guides project, I was able to apply some of the aesthetic concerns, as well as the lessons, from "We Make Memories." Storytelling has played a significant role in shaping both the underlying structure of the Guides database and the way in which the information is conveyed. Computer-generated characters, called Guides, suggest text articles, still images, animated maps, and video segments for viewers to look at, and present information in the form of first-person stories. By following Guides' suggestions, users experience information as if it were unfolding in time, rather than jumping around, disoriented, from place to place.

The Frontiersman Guide and the Settler Woman Guide were adapted from published first-person diaries and journals, and are recounted by two actors. The Native American stories were adapted from sources such as Red Cloud, Standing Bear, and Red Jacket by Kurt Peters, a Cherokee who teaches at San Francisco State University. However, Barney Hoehner, the Sioux man who tells the stories, changed the tone to reflect his own experiences, added stories his grandmother had told him, and "filtered out the white editors to make them Indian again."

Barney discovered this filtering process when he realized how difficult it was to memorize the stories, word for word, in English. He began to translate the stories from English to Lakota in his head, so that he could sift through the extraneous material to find the Indian truths in each story. He used these truths as narrative signposts so that he knew how each story needed to unfold in order to make sense. Then, he was able to tell the stories in English

but with his own words, structure, and rhythms.

Barney's filtering process enriched the content of the stories and enabled him to focus on the telling: adding gestures or pausing for emphasis where he had earlier stumbled over the words. But Barney was at his storytelling best when he spoke spontaneously from his own experience. As he was reading through a list of topics found in the database, he laughed to himself and said, "You know, I have a problem with these words 'horse stealing.'" Without taking a breath, he launched into the following story:

When we say "shungma wanasa," it doesn't mean I am a horse raider or a horse stealer. It implies cleverness, boldness and courageousness. You

turn to your woman and say, "make me a pair of moccasins." This means you intend to walk to the enemy's camp and come home riding. And if he has a beautiful buckskin horse that's the best war horse he's ever had, he thinks so highly of it that he ties it with the lead rope to his wrist when he goes to bed at night. That's the horse we wanna get. And that's the horse we're gonna sneak up on, and cut the rope, and ride him out of camp, muffling his hoofbeats, and when we come home, we're going to ride him into our own camp, ride him once around the camp, and then give him to someone who needs a horse.

Barney successfully tells us both what happens and why it happens, rolling a bit of metacommentary into the narrative without being didactic. Through his understanding of both Sioux culture and *waisbisbu*

Stories About Stories

Close your eyes, open your ears, and listen to Corey Fischer's melodic voice as he takes you on a journey through the Baal Shem Tov's forests of 18th-century Eastern Europe, to Rumi's pastures of 13th-century Turkey, and onto the freeways of Los Angeles as he rides in the back seat of his parents' 1951 Plymouth. Corey's aural collage also includes philosophical musings on the storytelling process, drawn from sources like Number Our Days by anthropologist Barbara Myerhoff and "The Storyteller" from Illuminations by Walter Benjamin.

—Abbe Don

Stories About Stories

Audiocassette by Corey Fischer

\$10 (\$11 postpaid) from A Traveling Jewish Theatre, P. O. Box 421985, San Francisco, CA 94142-1985; 415/861-4880

• Stories go in circles. They don't go in straight lines. So, it helps if you listen in circles, because there are stories inside stories and stories between stories and finding your way through them is as easy and as hard as finding your way home. And part of the finding is the getting lost. Because when you are lost, you start to look around and to listen. So, I invite you now, to become a little lost with me. Out of being lost comes the need to locate oneself. And telling the story is a way to do that. By telling a story, our story, we can locate ourselves in terms of our own experience, in terms of a community, or a tradition, and in terms of everything that is beyond the human — the gods, nature,

landscape. The quality that most sets theatre and storytelling apart from other kinds of human activity is that neither one can exist outside of community.

• Between Kosev and Kitev there's a forest where the Baal Shem Tov goes walking. The Baal Shem Tov was a healer and a teacher and a bit of a heretic. He led a movement of renewal in the Jewish communities of Eastern Europe in the 18th century. And perhaps most importantly, he was to a large extent the creation of countless generations of storytellers.

In the days of the Baal Shem Tov, in the days of the Baal Shem Tov, whenever the community was threatened by a pogrom or by a natural disaster, he would go to a secret place in the forest and he would make fire. And then he would say a prayer, and the catastrophe would be averted. After his death, in the next generation, his disciple, the Maggid of Mezritch, would go to the same place, but he would say, *ribbono shel olam*, God, I can no longer make fire, but I still know how to find this place, and I can still say the prayer and that must be sufficient. And it was sufficient. And again the catastrophe was averted.

Now, in the third generation, Moyshe Leyb of Sassov, who was the disciple of the Maggid of Mezritch, would go to the same place in the forest, and he would say, *ribbono shel olam*, God, I can no longer make fire, and I . . . I . . . I . . . I have forgotten the prayer, but I still know how to find this place, and that must be sufficient. And it was sufficient. And again, the catastrophe was averted.

Now, in our time, we say, *ribbono shel*

(white man) culture, Barney's story helps bridge the gap between them. "We Make Memories" and the Guides project both serve as models for the kinds of cultural transmission and media experiences that are possible when designers combine a traditional method of presenting information with the storage and retrieval capabilities of computers. Although both projects were produced in specialized environments (The Interactive Telecommunications Program at New York University and The Advanced Technology Group at Apple Computer, respectively), on high-end Macintosh computers, some related projects, techniques, and tools are emerging

that will make these experiences more widely available.

In the not-too-distant future, I envision annotated, interactive scrapbooks replacing the boxes of unlabeled family photographs and dormant memories gathering dust at the back of our collective closet. Electronics and film companies are already developing consumer equipment that suggests new ways of working with images. For example, the Sony Mavica, a video still camera that looks like an oversize 35mm SLR camera, enables photographers to record 25 images with nine seconds of sound accompanying each one, onto a floppy disk, in the field. When the photographer gets home, she can view the pictures instantaneously on a regular television

monitor by using the camera as a player. In another development, Kodak has announced a technique that should be ready in 1992 that will enable consumers to drop their film off at a photo-processing store and have the images put onto a CD-ROM disc. For now, these discs will be "read only" and will require a special player to enable users to view the images either on a computer or a television set. Like most media tools, the price will keep dropping and the number of features will keep increasing. But the real excitement will emerge from the creative ways that people use the tools to express their ideas, share their stories, and learn from their community. ■

olam, God, we can no longer make fire, and we too have forgotten the prayer, and we can no longer find the place, but we can tell the story, and that must be sufficient."

[Barbara Myerhoff] came up with the idea of *homo narrens* — the human as storyteller. She felt it was that basic an activity that it defined our humanness. She felt that when storytelling occurs, two things happen: there is a revaluing of local community, a taking back of power from the media in a sense, and also a revaluing of the elderly because so often they are the ones who carry the stories. They are the storytellers.

Family History Video Project

I first wrote my great-grandmother's biography for a class assignment when I was in seventh grade. I certainly would have benefited from the research and interview techniques contained in this comprehensive ten-week curriculum designed for the sixth grade and up.

The teacher's guide and workbooks provide activities that enable students to place their personal experiences in a larger historical context. While the content emphasizes Jewish traditions, many of the activities can serve as a model for anyone wishing to trace their family lin-

age. Part One includes activities for researching the origins of names, creating family trees, tracing family journeys, and collecting heirlooms, recipes, and family documents. The second part teaches basic video production skills, enabling students to write, produce, direct, shoot, and perform in their own video productions. —Abbe Don

Family History Video Project

Shawn Locke, Brad Lakritz, and Sima Greenbaum

Teacher's Guide **\$16.50** (\$19 postpaid); Student Workbooks **\$4.50** each (\$5.20 postpaid) from Bureau of Jewish Education, 639 14th Avenue, San Francisco, CA 94118-3599; 415/751-6983

In Context

This quarterly magazine comes close to paralleling WER's range of topics. Each issue has a loose theme ("The Ecology of Media: From Storytelling to Telecommunications"; "Caring for Families: Nurturing the Root of Culture") and multiple perspectives. Articles are commonly in interview format, with a casual and un-doctored air about the material. There's a gentleness that WER lacks. It's civil. And about building a new civilization.

—Kevin Kelly

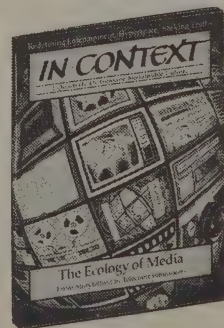
One of the many powers of media technology is its ability to make things real and relevant to students, who in many educational settings feel increasingly powerless to affect their futures. Through media,

however, they can see new possibilities, experience worlds not previously accessible to them, and encounter role models who encourage them to take responsibility for their own lives. And learning can be made more fun, which motivates students to keep learning how to learn.

—Wilhelmina C. Savenye

I think the loss of storytelling is dangerous to modern culture, because what happens is a tremendous shift in values. Without storytelling, children begin early to value information over wisdom. Facts over feeling. Mind over heart. They begin to depend on external sources to inform them, and they don't realize how much there is inside of themselves to tap for their own growth.

—Merna Hecht



In Context

Robert Gilman, Editor.

\$18/year (4 issues) from Context Institute, P. O. Box 11470, Bainbridge Island, WA 98110

Agents & Points of View

by Brenda Laurel

IN 1983, at the Atari Lab, I had a fall-down screaming fight with an executive of a big encyclopedia company with which we were trying to develop an "electronic encyclopedia of the future." The fellow was claiming that encyclopedia information was objective, and he actually seemed to believe in objectivity as a concept. I countered that for any given topic, "reality" depended almost entirely on the cultural and personal point of view of the creator of the information. That view cost me my involvement with the encyclopedia project, and prompted me to investigate the role of point-of-view as a component of information.

Information literacy in the age of electronic media requires a new set of skills and sensibilities. It is not enough to be able to read text, watch video, or listen to stories. People must somehow develop the means to integrate information from many sources into coherent understandings of the world. The process of understanding is also complicated by conventions embedded in "informational" media that attempt to deny the very existence of point-of-view. Television newscasters, for instance, describe the most unspeakable horrors with impeccably neutral faces and voices. But point-of-view

is *always* a part of information, no matter how subtly expressed or elaborately disavowed. Information literacy requires that we be able to identify point-of-view and to use it productively in the process of understanding.

For many years, my work has focused on applying dramatic theory and technique to computer media. The use of drama offers some interesting solutions to design problems in computer-based information environments. In multimedia information environments, characters can perform many useful functions: they can help people to visualize point-of-view; they can integrate different media through their positions as speakers and weavers of narratives; and, in addition to presenting content, they can enhance engagement and involvement with information as people experience and interpret it.

People often think that computer-based characters are impossible to implement because a complete model of human personality is required. I disagree. In fact, what is required is a kind of dramatic character with a few well-chosen traits that communicate information about the character's predispositions, abilities, and point of view. Designing and building characters is considerably less complex than modeling personalities, and theories, tech-

Brenda Laurel fights the good fight as a humanist in the land of techno-weenies; she is cofounder (with Scott Fisher) and managing director of Telepresence Research, Inc., a Virtual Reality start-up. Her e-mail address is laurel@well.sf.ca.us
—Howard Rheingold

niques, and examples from the world of drama are available to facilitate the task.

Computer-based characters that assist people in performing tasks (or having fun) with computers are called *agents*. Apple's 1988 "Knowledge Navigator" promotional video features an agent named Phil, who helps a university professor to manage his schedule, retrieve and organize information, construct and run custom simulations, and filter and sift communications. Agents that can perform this whole array of secretarial functions have not yet been implemented, but agents that can handle subsets like mail-sorting and information retrieval (within a particular database) do exist. The Guides project [see p. 54] provides examples of software agents that help humans with information retrieval, interpretation, and system operations. The guides also function as carriers of point-of-view. Because the Guides characters perform the role of storytellers, people do not expect lifelike conversation (we expect to listen to storytellers without interrupting them), thus reducing the requirement for in-depth computer understanding of language. At the same time, the program takes advantage of the powers of oral narrative.

Looking forward, I can see several compelling issues that must inevitably be explored. One is to discover how agents can be useful in information environments designed for contexts other than learning; for instance, in computer-supported cooperative work or individualized news service. Another is to address the editorial issues that arise when one designs characters to represent point-of-view; this approach does not eliminate bias, but rather pushes it down to a deeper level — the issue of accountability becomes more acute in many ways. Perhaps the most compelling issue is to understand how the act of creating and assembling information fundamen-

tally alters a person's relationship to the information environment. By giving people the means to create new information and to represent their own points of view to others, a radical shift may be achieved in people's experience of control. This capability may reverse, not only the McLuhanesque numbness that is our response to packaged information, but also the trend toward political apathy and the atrophy of personal power that looms in the 21st century. ■

Crowston, Kevin, and Thomas W. Malone. "Intelligent Software Agents," *Byte* 13:13 (December 1988), pp. 267-274.

Laurel, Brenda. "Interface Agents: Metaphors with Character." In *The Art of Human-Computer Interface Design*, B. Laurel, ed. Reading, MA: Addison-Wesley Publishing Co., 1990.

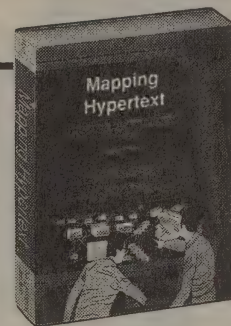
Laurel, Brenda. *Computers as Theatre*. Reading, MA: Addison-Wesley Publishing Co., 1991.

Mapping Hypertext

Boy, do I wish we'd had this book when we were designing the CD-ROM Electronic Whole Earth Catalog.

With so much textual (and graphic) information now available in electronic formats, how can we develop, organize, display and interlink any collection of such information in a useful manner? This book is the most thorough survey of solutions thus far. And it is organized in a highly visual hypertext-like format which effectively illustrates many of the principles being discussed. An absolutely first-rate work.

—Keith Jordan



Mapping Hypertext

Robert E. Horn, 1989; 289 pp.

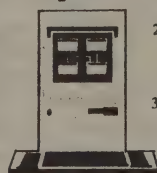
\$34.50 (\$37.50 postpaid) from Information Mapping, 303 Wyman Street, Waltham, MA 02154; 617/890-7003

Three Important Features of Hypertext Software

The essence of hypertext software is



1. a network of nodes Δ which may be text and/or graphics
2. software methodology that facilitates building of and access to nodes via links Δ
3. interface tools that facilitate the creation of arbitrary linkages in the text with buttons Δ and (frequently) the easy manipulation of chunks of text and media through windows.



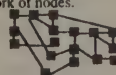
Links

Definition

Links connect nodes in the hypertext software by computer-supported relationships that permit rapid, easy movement across the network of nodes.

Examples of Some Kinds of Links

- There are a great variety of links in hypertext systems. Here are some types of links:
- the internal document organization (e.g., connect two pieces of text in same document)
 - the external organization (e.g., connection of one document to other documents)
 - annotation via pop-up windows
 - table of contents to document
 - index to document
 - local table of contents to a part of a document.



Nodes

Definition

1. Nodes are the part of the hypertext network where the text or other media are located. 2. For some software implementations, a node contains one idea or one sentence; for other implementations the node may be a whole document as long as a book or chapter.



Comment

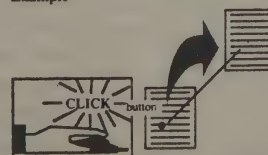
At present, the node is not a well defined concept except in certain very structured contexts. One node may include composite nodes where, for example, a node is a subnode. Nodes may have different display metaphors, such as cards, pages, windows.

Buttons

Definition

Buttons are specific locations in the hypertext or on other media that permit the user to jump along a link to another node, usually with the click of a mouse or the pressing of a key. In one sense, buttons are the user-visible manifestations of links.

Example



Storytelling Agents



by Tim Oren

CHRIS CRAWFORD, one of the world's best computer-game designers, delivers a marvelous rant in which he extols "interactivity" as the basis for competitive advantage of the computer over books, video, and other conventional media. The

marketers who want to sell computer-based "multimedia" technology would have you believe that interactivity is their advantage as well. But most of their offerings simply use video, animation, or sound as a kind of very pretty picture in an editorial structure just as passive as a reference book. And these "interactive" picture books are cumbersome, costly, and become obsolete at a horrendous rate.

Is that the kind of interactive advantage Chris is talking about? I think not. Playing a good computer game is an intense experience, fully engaged with a cunning, tireless opponent. The computer is not acting as a book, it is behaving as a partner, taking the adversarial role in a conversation about the outcome of a particular microworld.

While we accept the computer as an adversary, software designers often balk at a cooperative autonomous role for the machine. In today's multimedia and "hypertext" products, the power of the computer to actively suggest relevant information is typically hidden behind a "search card." Its use re-

quires leaving the normal interaction with the material, using an arcane command language to request action, and interacting in a lock-step pattern of query and retrieval. The result, unremarkably, is that few users explore even this limited cooperative capability. The power of the medium to interact is crippled.

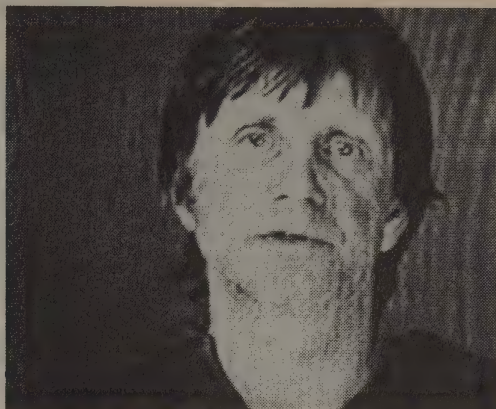
I'm suggesting a role for the cooperative computer which others have called "agent." The computer is not a static repository for data, it is an actor. The only model most humans have for directed, autonomous action is other humans. This has led some to believe that building a true computer agent requires breakthroughs in artificial intelligence that would let us model a full conversation with a human. Yet the experience of computer games shows that we may have a satisfying interaction with an agent, even if all it knows is chess, or the strategy of the Russian Front.

Likewise, in the Guides project we've found that people enjoy interacting with cooperative agents, though their intelligence is limited to suggesting pages to read or stories to view. "Conversation" occurs as the user decides which suggestion to take, and the Guide adapts to the interests which that choice implies. We find people are able to easily recognize the interests associated with historical characters, and to follow a character across different media, e.g., between video

Tim Oren calls himself a "media architect." Apple Computer calls him "Manager of Information Access Group in Advanced Technology Laboratory." He's an old friend of the Whole Earth crew and was involved in the Whole Earth CD-ROM project. His e-mail address is oren@well.sf.ca.us

—Howard Rheingold

How do users find their way through a multimedia database? Apple's "Guides" project is an experiment in using onscreen video storytellers to guide users through historical material via short narratives.



and monochrome graphics, once it is established.

The human image is not a necessary representation of an agent. However, with our historical database, the use of character feels natural and, along with the function of the Guide as storyteller, suggests a new model of interactivity. Just as playing out a computer game writes a little story of victory or defeat, so the series of connected items generated by the interplay of our Guides' suggestions and the user's choices can be viewed as a loose narrative.

This view, in turn, suggests new editorial structures for the content of multimedia databases. Multimedia design has divided into often-warring camps. One extreme position is the subjugation, in the name of understanding, of the new medium to logical forms and discourse rules evolved for print. The other celebrates the enormous capacity of the computer for content and linkage between all potentially related items, sometimes to the point of license and meaninglessness.

Our third option is provided by viewing the computer as an active element which mediates logical structures for the reader, rather than presenting them in full complexity or crippling their expressiveness. Particularly in domains such as history and the arts, the computer may take on the face of the storyteller, the archetypal Guide figure of myth. Cooperating with a partner may prove more satisfying than pointing and clicking at electronic books. ■

Media Magic

Many people are talking and writing about virtual reality, but few people have the opportunity to see for themselves what it is all about. Anyone who asks me how to get a look at this much-

discussed new technology is referred to this mail-order service. Their \$30, 60-minute video, "Virtual Reality," includes excellent selections from NASA, the University of North Carolina, VPL Research, and MIT's Media lab. They also offer books, videos, software, and audiocassettes about fractals, chaos, scientific

visualization, neural networks, remote sensing, artificial life, computer graphics, artificial intelligence, and other topics on the bleeding edge of science, technology, and art. —Howard Rheingold

Media Magic

Catalog free from P. O. Box 507, Nicasio, CA 94946; 415/662-2426



SATELLITE IMAGING The Jet Propulsion Laboratory

\$20 #V48

These four movies demonstrate a variety of remarkable data visualization techniques. JPL imaging scientists have used a single NASA satellite photo and advanced computer processing to create "L.A. The Movie," a startling aerial

ride over a three-dimensional Southern California landscape. "Earth: The Movie" combines satellite cloud data and Earth elevation data from maps into a three-dimensional flight over the world. Using computer-enhanced images taken by the Viking orbiter spacecraft, scientists have simulated a flight through the enormous canyons and above the volcanoes of the Martian landscape in "Mars: The Movie". "Miranda: The Movie" takes you on a simulated flight over towering mountains and through the steep canyons of Miranda, a moon of the planet Uranus. 20 minutes, 1989.



INTERACTIVE PHYSICS

By Knowledge Revolution

\$199 #SM22

Runs on all Macs with two 800K drives or hard disk. Systems 6.0.2 or later.

Interactive Physics is a laboratory on a disk. You manipulate a simulated Newtonian world, allowing you to freely explore and discover physical phenomena. Experiments are created by drawing objects (masses) on screen and interconnecting them with ropes, springs and dampers.

You adjust all relevant physical quantities (such as masses, friction, elasticity, gravity) to explore their effect on your experiments.

Simulate pendulums, spring mass systems, ideal gases, falling bodies, inclined planes, levers, and more. Comes with 50 demonstrations and experiments. Easy to set up simple or complex simulations, no programming is required. Tutorials guide the user through the operation of the program. A basic knowledge of high-school physics is assumed. The illustrated 100 page manual provides a clear explanation of the programs many options.

Through Indian Eyes

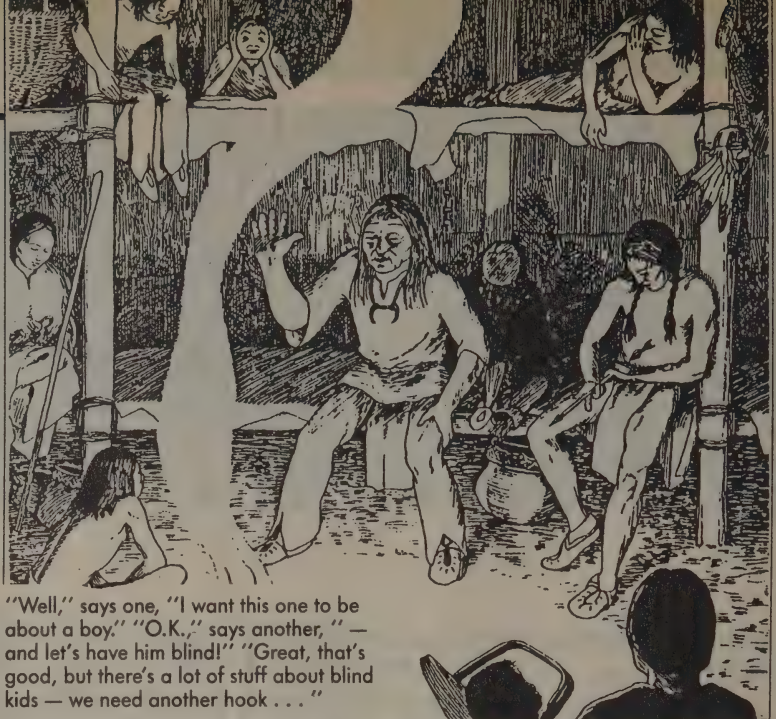
This thoroughly researched guide helps parents and educators choose children's books and resource materials that don't distort the history of Native people or perpetuate stereotypes of Native American cultures. In addition to sensitizing readers to the blatant inaccuracies and subtle racism that permeate numerous books about Native Americans, Slapin and Seale recommend and annotate many excellent books that accurately depict Native people, such as *Iroquois Stories* by Joseph Bruchac, *The People Shall Continue* by Simon Ortiz, and *Who-Paddled-Backward-With-Trout* by Howard Norman. *Through Indian Eyes* is a must for every school library, providing teachers and parents sources for teaching units, audiovisual materials, and storytelling ideas. —Carol Pancho

Oyate carries many of the books reviewed in *Through Indian Eyes*; contact them at the address below for their list.

—Sarah Satterlee

• *Knots on a Counting Rope*

Martin, Bill, and John Archambault; Holt Scenario: Two children's book authors and an illustrator, whose recent work has received critical acclaim, are discussing possibilities for their next work.



"Well," says one, "I want this one to be about a boy." "O.K.," says another, "— and let's have him blind!" "Great, that's good, but there's a lot of stuff about blind kids — we need another hook . . ."

"I know! I know! He's an Indian! A blind Indian!"

"Oh, wow, perfect! . . . but won't we hafta do a lot of research? I mean, I don't know very much about Indians, do you?"

"Oh, sure, I've got all these rugs my old man bought from the Navajos back in the 'forties — said he got 'em for a song . . ."

This, of course, is probably not how it hap-

pened, but judging from the results, it might just as well have been.

Through Indian Eyes

Beverly Slapin and Doris Seale, Editors. 1991; 350 pp.

\$24.95 (\$28.95 postpaid) from New Society Publishers/Oyate, 2702 Mathews Street, Berkeley, CA 94702; 415/848-6700 (or Whole Earth Access)

The Singing Feather

Most travelers speeding north of Sonoma County on Highway 101 probably do not give much thought to the California Indians who prospered here long before the highway was built or the National Park Service acquired old-growth forests or the sixties counterculture moved back to the land. The ubiquitous visitor center may have a pamphlet about the history of the area, but for a completely different point of view, read this collection of first-person oral histories from 18 elders of the Round Valley Reservation and Tribal Community.

The editors provide geographical, historical, and political context for the reader, then the elders tell their stories. An occasional third-person sidebar offers further explanation of customs or historical events.

Following the editors' lead, I will only add that Round Valley Reservation, "a small, rural farming and logging community tucked away in the northeastern corner of Mendocino County," was established by the United States government in 1856, when the people of Pit River, Concow Maidu, Little Lake Pomo, Nomlaki, Wailaki, and the original Yuki heritage were brought there by force.

—Abbe Don

• "The world was covered with water. There

were no people. There was this feather, floating on the water. The waters started to recede, causing a whirlpool and this feather was going around and around and as it was going around, it started singing. And as it was singing, it started to turn itself into man. As he continued to sing, he became true man. The water was drying up and there was mud and he took this mud and made his people — the Yuki."

—Leland Fulwider, Jr.

• Oh, an' one White man come up from the city, San Francisco. He come up an' he had his ole recording stuff, you know. He come up an' we was under the tree — the tree out there, sittin' down. Summertime. An' he come up. He said, "Well, hello, you two," he said. "I'm here. I want to record your language, record you singing Indian songs." My Dad tell him, "You better get on your way. I'm no Indian." He said, "The White man come through here and broke us of our language, our dances an' our whatnot," he said. "This is what they done to us. We don't have any an'. I don't sing Indian songs," he said. "I'm a White man, just like you," he told that White guy. An' he packed up all his instruments an' left.

• They had shells them days an' Indian beads an' all that stuff. They make 'em themselves, you know. Gee, you ought to see Ben White, Wailaki, Rohrbaugh Ranch

Indian dances. Ben White. Remember Ben White?

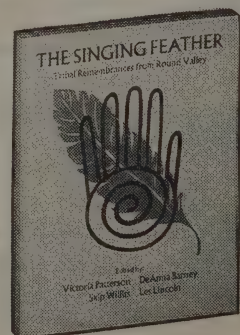
A: Yeah.

J: Wailaki man. Gee, when they come in dancin', feathers drop way down. He was old, too. Holler, jump way up in the air about that time. My favorite, when you leavin'. You singin', gee, then you all get together. When they take the feathers off, that's when the doctor come in there, you know. He got to sing til they leave, you know. There's a lot of meaning to the words. "We leave til we meet again," that's the song.

The Singing Feather

Victoria Patterson, DeAnna Barney, Skip Willits, Les Lincoln, Editors. 1990; 103 pp.

\$12.50 (\$14.50 postpaid) from Mendocino County Library, 105 N. Main Street, Ukiah, CA 95482

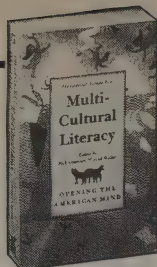


The Graywolf Annual Five: Multi-Cultural Literacy

Multi-Cultural Literacy captures dynamic and deep notions of culture by providing firsthand accounts of cultural diversity and cultural change.

This volume of Graywolf began as a reaction to Allan Bloom's Closing of the American Mind and E. D. Hirsch, Jr.'s Cultural Literacy. While Bloom and Hirsch call for educating citizens to use the same common system of cultural referents, Multi-Cultural Literacy provides a plethora of world views and their diverse referents. —Pat Roberts

At Laguna Pueblo in New Mexico, "Who is your mother?" is an important question. At Laguna, one of several of the ancient Keres gynocratic societies of the region,



Multi-Cultural Literacy

Rick Simonson and Scott Walker, Editors. 1988; 204 pp.

\$8.95 (\$11.95 postpaid) from Graywolf Press, 2402 University Avenue #203, Saint Paul, MN 55114; 612/641-0077 (or Whole Earth Access)

your mother's identity is the key to your own identity. Among the Keres, every individual has a place within the universe — human and nonhuman — and that place is defined by clan membership. In turn, clan membership is dependent on matrilineal descent. Of course, your mother is not

only that woman whose womb formed and released you — the term refers in every individual case to an entire generation of women whose psychic, and consequently physical, "shape" made the psychic existence of the following generation possible. But naming your own mother (or her equivalent) enables people to place you precisely within the universal web of your life, in each of its dimensions: cultural, spiritual, personal, and historical.

—Paula Gunn Allen

My upbringing taught me that cultures are not isolated, and perish when deprived of contact with what is different and challenging. Reading, writing, teaching, learning, are all activities aimed at introducing civilizations to each other. No culture, I believed unconsciously ever since then, and quite consciously today, retains its identity in isolation; identity is attained in contact, in contrast, in breakthrough.

—Carlos Fuentes

The Graywolf Annual Six: Stories From the Rest of the World

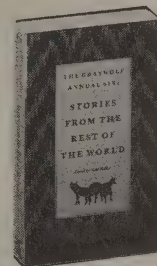
This volume of Graywolf made me think about what it means to be culturally literate. Literate beyond the boundaries of America and our many cultures, to the lands and peoples of the rest of the world. Authors from Africa, Syria, India, the Soviet Union, Iraq, China, Lebanon, Libya, Egypt, and Japan enhance our own experience by sharing theirs. —Pat Roberts

The land north of Kuruda and Hessadi villages is uneven, dry and sunbaked. Grass does not grow there even after the rains. There is an occasional cluster of cactus here and there, like snakes about to strike but frozen still. Or some neem trees. In the middle of this barren and arid stretch of land where not even a buffalo grazes lies a tiny piece of low-lying land, hidden from the eyes by a slightly raised embankment. It is about one-sixth of an acre of land and visible only when one stands on the raised embankment. It is only then that

lush greenery of the land almost stikes one hard in the eye. Incongruous, almost weird.

—Mahasveta Devi

Where on earth did you pick me up, Madis? And who named you Madis, a fair, soft-sounding name to be sure? Oh yes, I remember. It was in that packed cellar where we indulged in a sweet discussion at an oaken table. It was men's talk. There are myriad things in this world to be discussed in such a leisurely way at an oaken table, over mulled wine and salted almonds. Look here, Madis, you're young and this is why you don't have as many things to discuss right now as I do. That's why you paused to listen to me talk, and that's why I'm here after all. That brown-eyed man served in my company. He lost an eye, but that doesn't mean he's any worse than the rest of us. It was a German bullet that knocked it right out of his head. Used to be a beautiful brown eye, but it stayed there in the mud of the River Emajogi. I happened to be standing next to him. At the moment, we were discussing a third man's family troubles. He married that kind of woman. Yes, he was also from our company. Young and green when he joined



Stories From the Rest of the World

Scott Walker, Editor. 1989; 172 pp.

\$8.95 (\$11.95 postpaid) from Graywolf Press, 2402 University Avenue #203, Saint Paul, MN 55114; 612/641-0077 (or Whole Earth Access)

up and just as young and green when he got back. Went like hotcakes. Young and too soft-spoken. The whole company was at the wedding party, what was left of it. Their one-room flat was large enough for us. Now that third man owns a large house, but happiness has left him.

—Teet Kallas

Itam Hakim, Hopiit

Victor Masayevsa is a Hopi Indian who combines the traditional stories of his culture with innovative uses of new media. In this video, produced as a tribute to the Hopi Tri-Centennial (1680-1980), Ross Macaya, one of the last members of a storytelling clan, tells three stories — The Hopi Emergence, The Spanish Conquest, and the Pueblo Revolt of 1680 — and a Hopi prophecy. The soundtrack is in Hopi with an English translation that is offset by several seconds, so the viewer

can hear the natural rhythms and tones of Macaya's voice in his native tongue and still understand the content. The visual imagery cuts gracefully from a contemporary setting (Macaya telling the stories to a group of young boys) to enactments of the stories shot on location in beautiful desert scenery to black-and-white photographs, taken by White photographers, that date from the turn of the century. The tape is a successful tool for learning more about Hopi culture from a Hopi perspective and its lush,

colorful imagery makes it a visual and aesthetic treat too. —Abbe Don

Itam Hakim, Hopiit

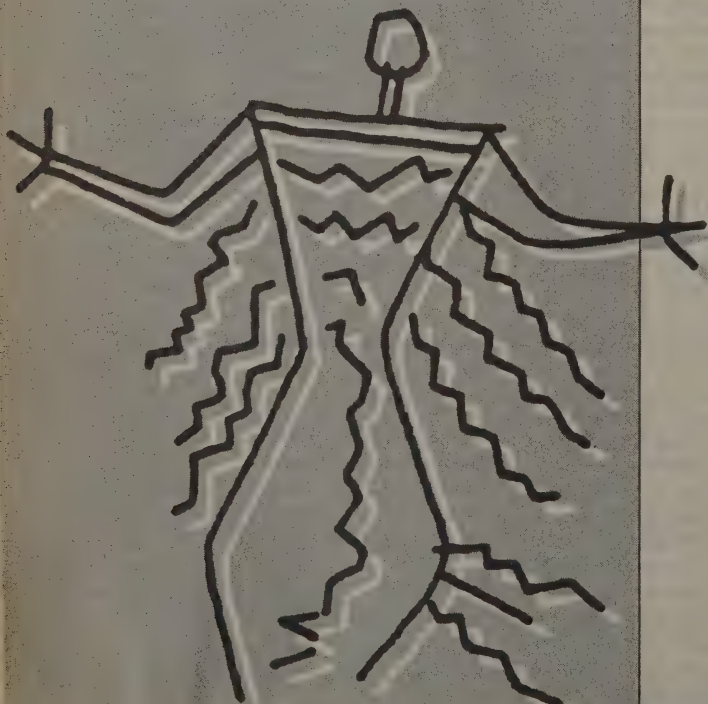
(We the People, the Hopi)
Videotape by Victor Masayevsa, Jr., 1984
Direct inquiries to Electronic Arts Intermix, 536 Broadway, New York, NY 10012; 212/966-4605

Note: Up till now, the video has been sold to museums and libraries for big bucks (¾" videotape \$306 postpaid; VHS \$204 postpaid). If there is enough demand from individuals, Victor may agree to a home-video price.

Not Just Entertainment

by Lenore Keeshig-Tobias

Lenore Keeshig-Tobias, Ojibway storyteller and writer, lives in Toronto. This essay appeared in *Through Indian Eyes: The Native Experience in Books for Children*, reviewed on p. 62.
—Sarah Satterlee



THE ISSUE is not about "Where the Spirit Lives," an award-winning and subtly racist TV movie about the Native experience in residential schools, written and produced by white people from their own perspective. The issue is not about Darlene Barry Quaife's *Bone Bird*, a "celebration of Native spirituality" written by a white woman who says that "writing from imagination is an incredibly free process." The issue is not about W.P. Kinsella's *Miss Hobbema Pageant*, a collection of malicious and sadistic renderings of stories about Native people, written by a white man who maintains, "When I need facts I invent them." The issue is not just a white perspective of history, an oversimplification of Native spirituality and lifeways, or mean-spirited and racist renderings of our stories. The issue is not censorship or the shackling of imagination, both naive and thoughtless responses voiced by many non-Native writers and storytellers, and even a few Native writers who want to keep up their good relations with the fort.

The issue is culture theft, the theft of voice. It's about power.

The issue is not unlike the struggle women waged, not so long ago, to get their voices heard, their stories published. The issue is not unlike the French Canadians' struggle for their language and their culture. The Quebecois have a unique voice in North America because they have fought to ensure that their language remains intact. Language is a conveyor of culture. Language carries the ideas by which a nation defines itself as a people. Language gives voice to a nation's stories, its mythos.

The question I ask Canadians is: Would you accept an American definition of Canada and Canadians? How would it be if Germans were to write Jewish history? And white Americans writing black history?

Stories are not just entertainment. Stories are power. They reflect the deepest, the most intimate perceptions, relationships and attitudes of a people. Stories show how a people, a culture thinks. Such wonderful offerings are seldom reproduced by outsiders.

Picture this — the outsider (oppressor) crawling into the skin of the oppressed without asking and before the skin is even vacated. Now, suppose the skin is already empty. What happens if it is too big or too small for the outsider? And then once inside, whose eyes are looking out?

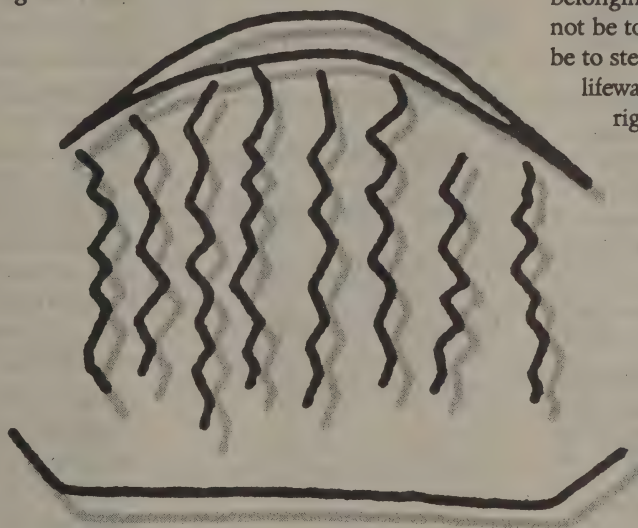
Cultural insight, cultural nuance, cultural metaphor, cultural symbols, hidden subtext — give a book or film the ring of truth. Images coded with our meanings are the very things missing in most "native" writing by non-Native authors. These are the very things that give stories their universal appeal, that allow true empathy and shared emotion.

Yet Native images, stories, symbols, and history are all too often used by Canadians and Americans to sell things — cars, tobacco, movies, books. But why hasn't Basil Johnston's *Indian School Days* become a bestseller? Why hasn't *Half Breed* by Maria Campbell been reprinted? Why, for that matter, has Maria Campbell, as one of Canada's "celebrated" authors, never received a writer's grant?

With First Nations people struggling for justice in Canada's legal system, in land claims, in education, what makes Canadians or anyone else think Native peoples have equality in the film industry? In publishing? With granting agencies? Or in the arts?

Unconsciously, perhaps, but with devastating results, the Canadian

Our Elders and traditional teachers want to share the beauty of Native culture, the Native way. But appropriation is not sharing.



cultural industry is stealing Native stories as surely as the missionaries stole our religion and the politicians stole our land and the residential schools stole our language. As Leslie Marmon Silko writes in *Ceremony*, stories "are all we have, you see — all we have to fight off illness and death."

As a storyteller I was advised by an Elder that there is a season for storytelling — winter. "Blackflies, mosquitoes and other creatures like those stories," she cautioned. How quaint, I thought at the time. Nonetheless, I respected her advice, and as time went on, I began to understand. If storytellers sit around all summer telling stories, then quite naturally they'll become the feast of

blackflies and mosquitoes. But my Elder was telling me more. She was telling me these stories are meant for certain ears only — and I don't mean non-Native ears.

She was also telling me that storytellers have a responsibility for the stories they tell. So powerful are stories that, in Native cultures, one storyteller cannot tell another's story without permission. Alexander Wolfe, a Salteaux storyteller, in his introduction to *Earth Elder Stories*, sets this down: "Each family handed down its own stories. Other stories, belonging to other families, could not be told, because to do so would be to steal." This aspect of Native lifeways and values, the copy-

right, existed long before the Europeans arrived in North America, and it still applies to the written word, in fact any story, fiction or non-fiction, that is put out to the public.

But rather than confront and deal with issues of appropriation, rather than recognize the fact that we can tell our own stories and that there is protocol for the acquisition

of stories, and rather than accept responsibility to and for the stories they tell, many non-Native writers and "storytellers" cry censorship and decry self-censorship. Some traditional stories tell how Trickster attempts to recreate the actions, the magic of another. Motivated more by laziness, incompetence in providing for his own family and his great need to impress these same friends with his handling of their magic, Trickster fails. Not only are the friends not impressed, but the magic always backfires.

Our Elders and traditional teachers want to share the beauty of Native culture, the Native way. But appropriation is not sharing, and those who fool themselves also fool the

public by drawing away from the real issues and struggles facing Native peoples. Appropriation exploits and commercializes Native cultures, and is harmful to innocent people.

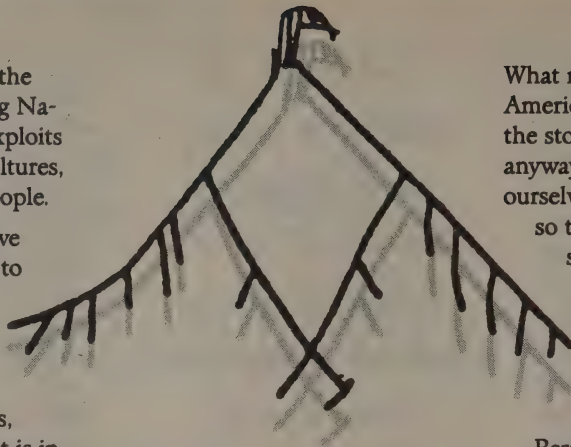
Consider also that when Native and traditional people go out to gather medicine (roots and herbs), they do not go out and just pick and take. They ask, talking to the plants and rocks, telling of their needs and what is in their hearts. They leave a tobacco offering in place of what they take.

Native stories deal with the experiences of our humanity, experiences we laugh and cry and sweat for, experiences we learn from. Stories are not just for entertainment. We know that. The storyteller and writer has a responsibility — a responsibility to the people, a responsibility for the story and a responsibility to the art. The art in turn then reflects a significant and profound self-understanding.

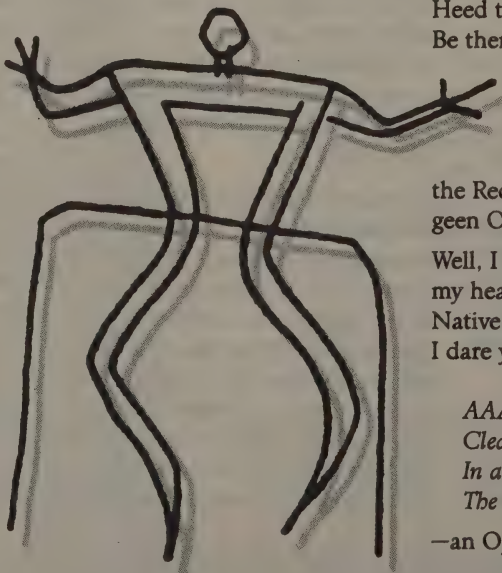
Now tell me, why are Canadians and their American cousins so obsessed with Native stories anyway? Why the urge to "write Indian?" Have they run out of stories of their own? Or are their renderings nostalgia for a simpler, more "at-one-with-nature" stage of human development?

Maybe Canadian and American stories about Native people are some form of exorcism. Are they trying to atone for the horrible reality of Native-white relations? Or maybe they just know a good story when they hear one and are willing to take it, without permission, just like archaeologists used to rob our graves for their museums.

What about the quest for Native spirituality? It is mostly escapist, and people like Darlene Barry Quaife, Lynne Andrews, and other would-be shamans would rather look to an ideal, romanticized "Native" living in never-never land than confront the reality of what being Native means in this society.



*Would-be shamans
would rather look to
an ideal, romanticized
"Native" than confront
the reality of what
being Native means
in this society.*



What makes white Canadians and Americans think they are privy to the stories of First Nations people, anyway? And why is speaking for ourselves and telling our own stories so threatening to them? Because stories are power? They have the land now, or so they think; do they now want our stories, our voices, and our spirit, too?

Residential-school survivors tell of children being forced to eat their own vomit when their stomachs could no longer hold down the sour porridge. They tell of broken knuckles from fingers being rapped. Some even tell of having pins stuck through their tongues as punishment for speaking their Native language. (Now, that's censorship.) Imagine — white Canadians and Americans telling Native stories because their governments outlawed Native languages and Native life-ways, and punished those of us who resisted.

However, as Métis author Maria Campbell (to whom we Native writers affectionately refer as the Mother of us all) said on public radio last fall, "If you want to write our stories, then be prepared to live with us." To this I have to add: not just for three months either, and eighteen months is little better.

Heed the voices of the wilderness. Be there at Big Mountain and Akwesasne. Be there with the Lubicon, the Innu. Be there with the Teme-Augama Anishnabai on the Red Squirrel Road. The Sauguen Ojibway. I dare you.

Well, I say, a mouse dances on my head, and if you want these Native stories, then fight for them. I dare you.

AAA-III-EEE Y-AAH!

Clear the way.

In a sacred manner I come.

The stories are mine!

—an Ojibway War Song ■

Just Enough to Make a Story

This slim volume offers much more than sources, although there are these — story- and songbooks; storytellers on record, book, and film; books about folklore and fairytales. My favorite resource lists are “active heroines” and “stories in service to peace.”

Even more valuable is the insightful, experience-derived advice Schimmel offers. Never preachy, she speaks to the value of storytelling — motivating kids to read — with warmth and sagacious enthusiasm, and helps you choose, learn, and tell a story gratifying to teller and told.

—Sarah Satterlee

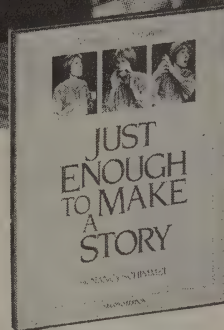
I usually warn the audience if I am going to tell a scary or bloody story; then they can brace themselves, and say “That wasn’t so scary” afterwards. And it wasn’t so



Just Enough to Make a Story

Nancy Schimmel, 1987; 56 pp.

\$12.75 (\$14.25 postpaid) from Sisters’ Choice Press, 1450 6th Street, Berkeley, CA 94710; 415/524-5804



scary, listening in a group, but it might be, thinking about it alone later. Kathryn Windham, who tells ghost stories most convincingly, also passes on a few beliefs

about how to keep ghosts away at night; the simplest being to place your shoes with one pointing toward your bed and one pointing away.

NAPPS

If you consider yourself a storyteller, you most likely are a member of NAPPS. If not, avail yourself of their almost limitless resources: with a regular membership you get *Storytelling*, a wide-ranging quarterly covering stories, the traditions from which they come, their uses, the people who tell them, and a calendar

of events. You also get the *Catalog of Storytelling Resources*. With a Membership PLUS, add to those benefits eight issues of the *Yarnspinner* newsletter, which deals more with the nuts and bolts of storytelling, and the annual *National Directory of Storytelling*. NAPPS puts on a national festival every October in Jonesborough, Tennessee, and has recently launched a National Storytelling Library and Archives. —Sarah Satterlee

they see as satanic or otherwise immoral content, worried citizens are banning storytellers from performing. . . .

A group of parents charged that [Martha] Stevens’ stories — including “Prometheus and Pandora,” “Jack and Mary,” and “The Ring in the Fish” — were satanic because they centered on or contained references to spirits or magic. —*Storytelling*

NAPPS

(National Association for the Preservation and Perpetuation of Storytelling)

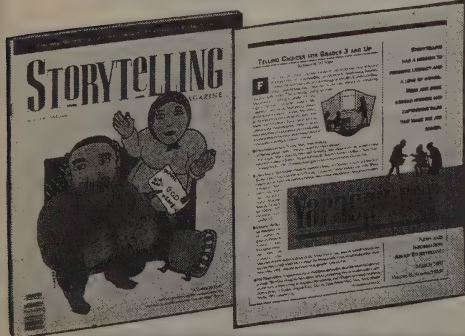
Membership

\$25/year (includes 4 issues of *Storytelling Magazine*; single copies \$4.95)

Membership PLUS

\$40/year (includes *Storytelling*, 8 issues of *Yarnspinner*, and *National Directory of Storytelling*)

NAPPS, P. O. Box 309, Jonesborough, TN 37659-9983; 615/753-2171



Storytelling: Process and Practice

It’s conceivable that there are some aspects of storytelling that aren’t dealt with in this book, but I find it difficult to think of any. This labor of love deals with everything from the functions of storytelling to preparing, developing and delivering stories. It also offers numerous resources for storytellers, including a wonderful 21-page reference section dealing with frogs: frog princes, frogs with human qualities, frog brides, leaping frogs, worldly frogs, African frog stories, songs about frogs, frogs as frogs, etc. etc. There are also sample flyers and suggested syllabi for courses in storytelling. Encyclopaedic in size and textbookish in nature, *Storytelling* is also full of passion. Frog

lovers will find it unforgettable.

—Arthur Asa Berger

When the storyteller learns a story, he or she maps it in memory. The story map contains aspects of event sequence structure, number sets, overall top-level structure, participation opportunities, and specific story content. During the telling, all of these elements are integrated to produce the concrete product — the told story.

Some storytellers map stories “naturally.” They do not require the use of physical aids, but simply recognize and remember story shape and content after a reading or a telling. The experienced teller, and one who has had extensive exposure to the oral literature, will recognize a variety of story shapes readily, because experience has contributed to the development of

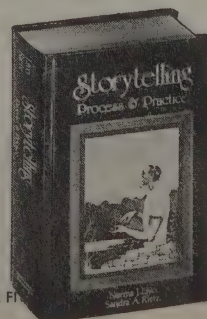
many story structure maps in memory. Other storytellers might require some sort of memory aid.

Storytelling

(Process and Practice)

Norma J. Livo and Sandra A. Rietz, 1986; 462 pp.

\$29.50 postpaid from Libraries Unlimited, P. O. Box 3988, Englewood, CO 80155; 800/237-6124



Telling stories to your kids

by Nancy Schimmel

EVERYBODY SAYS if you read to your kids it will help them learn to read. Everybody's right. You give your children practice in visualizing the happenings in a story, which will make their reading more enjoyable later on. You also give them ex-

perience with narrative language, which has more description and less "Pass the butter" than everyday conversation. But what if you don't like to read aloud? What if you have unpleasant memories of reading aloud in school because you were shy, or dyslexic, or because the books you had to read aloud from were just too stupid? Do your kids get short-changed? They don't have to. Tell a story.

If there is a book you have read umpteen times you can probably tell it, and your kids will help you. Saying words goes much more slowly than reading them silently. So translating a written story into a telling story often involves cutting. Too much description right at the beginning can turn listeners off. Leave out what is not necessary, and try moving some description around in the story to where it fits best. Leave in only enough 'he said's' and 'she said's' so your listeners won't get lost, and forget the rest. Speaking of

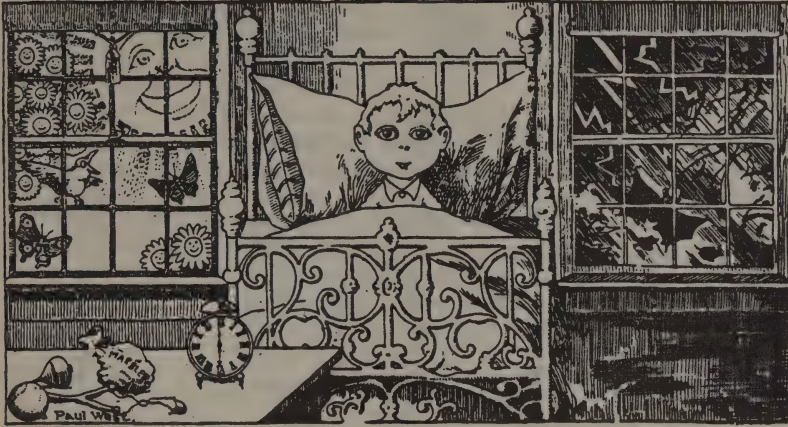
forgetting, if you forget something in a story when you tell it, think about whether the story really needed that thing or not. The subconscious is a good editor.

Start with folktales. They come out of the oral tradition, so it's easier to put them back in. Also, they don't depend on an author's exact words, so you can tell them much more freely. Start with something short or repetitious that you like a lot. Brevity, repetition and love will help you learn the story — the greatest of these is love.

If you're not telling a written story, tell about something you and your kids did together a while ago. They will help you with that, too. If you get tired of "help," tell them about when they were babies. Kids love to hear about themselves (unless they only hear about their mistakes). If you want to get creative without too much effort, invent or borrow a character and tell your family happenings as though they were happening to that character. My father used to tell me about the three little pigs going to see their grandfather and grandmother, but it was my grandmother and grandfather he was talking about. The three little pigs got oatmeal in their trough every morning, which is what I got in my cereal bowl every morning at their house.

Nancy Schimmel grew up in a storytelling family and went pro in 1975 after eight years as a children's librarian. She has told traditional and original stories to adults and children at festivals, schools, colleges, libraries, hospitals, bookstores, rallies and coffee houses. She has taught storytelling to adults in the library schools at UCLA, UC Berkeley, and the University of Wisconsin. She has made one storytelling book, one audio tape and one video tape, all available from Sisters' Choice Press, 1450 6th Street, Berkeley, CA 94710; 415/524-5804.

—Sarah Satterlee



In *Annie Stories*, Doris Brett describes using this technique in a more purposeful way. She recommends telling a child a story about another child very like himself (or perhaps three pigs very like him) successfully encountering a situation the child is afraid of, such as the first day of nursery school or a trip to the dentist. Hearing about someone else who is scared is comforting in itself. Also, because the scary thing is happening to someone else, the story is not too scary to listen to and think about. And the successful ending gives the listener hope.

It takes a great leap of faith for children to believe that the world existed before they were born, but it is possible for you to interest them in tales of your own youth if you choose carefully. Tell them about times when you were scared or surprised or embarrassed or up to no good. My father charmed me with a story about a time in his childhood when they had a field of watermelons, the bottom dropped out of the watermelon market, and they were eating watermelon every day. One day his sister Elizabeth had had it. She stood up with her plate of watermelon in her hands and whirled around — watermelon slid everywhere! Aunts and uncles take note: this story would have been even more fasci-

nating to Aunt Elizabeth's kids. Grandparents, too, are in a strategic position to tell their grandkids things those kids' parents won't tell on themselves.

When you tell stories about your own life, it can be hard to figure out where each story begins and ends. With kids, you have to cut to the chase pretty quickly. If you tell often, you can build the cast of characters (your parents and siblings, childhood friends, teachers) gradually, and not have to do so much explaining each time before you get to the action. Take the time to remember the people and places vividly so the stories will sound fresh. Looking at snapshots, if you have them, can help. If you can, tell how the incident changed you — your understanding of someone, your aspirations, whatever. Or say how it seems different looking back on it than it did at the time. Connect the story to the you they know.

You don't need to be an actor to make a story sound interesting. You can play with different voices and accents if you want to, but you don't have to. Think about how you would feel if you were the character you are reading or telling about. Use your own voice but put that feeling into it.

If you are telling at the end of a

long day, and feel too tired to sound interesting, try sitting up straight and taking a deep breath before you begin. Remember, you don't have to sound too interesting at that hour. If your audience goes to sleep, all the better.

Homesick: My Own Story is an engaging memoir of childhood written for children. Reading it aloud to your kids may inspire you to meander into some of your own stories and will provide a fine model for the art of family telling. For more ideas on family storytelling, read *The Family Storytelling Handbook* (WER #60, p. 116); *Black Sheep & Kissing Cousins* and *Celebration of American Family Folklore* contain fascinating family anecdotes — the former focusing on how they function in family dynamics, the latter on more folkloric aspects — to inspire your own tales; and if you want to get into telling folktales or telling to larger-than-family groups, read my book, *Just Enough to Make a Story*. ■

Annie Stories: Doris Brett, 1988; 228 pp. \$5.95 (\$7.95 postpaid) from Workman Publishing, 708 Broadway, New York, NY 10003; 800/722-7202.

Homesick: Jean Fritz, 1984. \$3.25 (\$5.75 postpaid) from Dell Publishing Co./Direct Sales, 414 E. Golf Road, Des Plaines, IL 60016; 800/223-6834.

The Family Storytelling Handbook: Anne Pellowski, 1987; 150 pp. \$15.95 postpaid from Macmillan Publishing Co., 100 Front Street, Riverside, NJ 08075; 800/257-5755.

Black Sheep & Kissing Cousins: Elizabeth Stone, 1989; 256 pp. \$7.95 (\$9.95 postpaid) from Penguin USA/Cash Sales, 120 Woodbine Street, Bergenfield, NJ 07621; 800/526-0275.

Celebration of American Family Folklore: Steven J. Zeitlin and Amy J. Kotkin, 1982. \$11.95 (\$13.95 postpaid) from Random House/Order Dept., 400 Hahn Road, Westminster, MD 21157; 800/726-0600.

These books are also available from Whole Earth Access.

The Story Vine

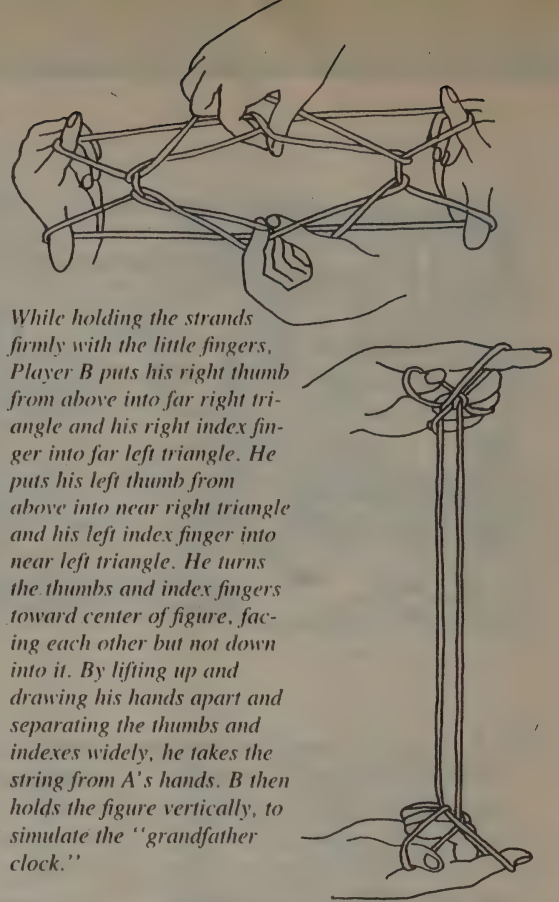
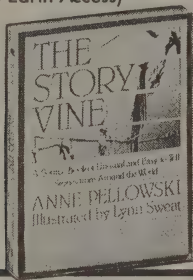
If you're all thumbs, skip this one. But if you want something to do with your hands while you tell stories, this is the book. Sand-drawing stories from the Australian aboriginal culture (cleverly adapted to a larger audience by using an overhead projector), thumb-piano stories from Africa, handkerchief stories, string stories. They are fun to do and a blessing to know when you are telling in a distracting situation and your audience is having a hard time focusing.

—Nancy Schimmel

The Story Vine

Anne Pellowski, 1984; 116 pp.

\$7.95 postpaid from Macmillan Publishing Co., 100 Front Street, Riverside, NJ 08075; 800/257-5755 (or Whole Earth Access)



The next morning the soldier set off for his homeland again. The cat followed him.

"When I sell my diamond, I'll have enough for the two of us," said the young man, and he let the cat come with him.

The man spent the rest of his life sitting in his comfortable chair, listening to the ticktock of his grandfather clock and the contented purring of his one-eyed cat, who lay in the cradle the man had once slept in as a child. And that's why this story ended up being called "Cat's Cradle"!

While holding the strands firmly with the little fingers, Player B puts his right thumb from above into far right triangle and his right index finger into far left triangle. He puts his left thumb from above into near right triangle and his left index finger into near left triangle. He turns the thumbs and index fingers toward center of figure, facing each other but not down into it. By lifting up and drawing his hands apart and separating the thumbs and indexes widely, he takes the string from A's hands. B then holds the figure vertically, to simulate the "grandfather clock."

Joining In

Audience-participation storytelling is tricky stuff. Interacting with a shy or unruly crowd challenges any storyteller; but when it works, it works. In this helpful book, 18 very different storytellers present stories, tell how they get the audience to participate, and comment on the experience, letting you inside their minds as they tell. Good stories, too.

Two other books on participation storytelling have come out recently; *Joining In* is clearly the "best buy," as the others cost about three times as much. But if your library has *Twenty Tellable Tales: Audience Participation for the Beginning Storyteller* (Wilson, 1986), use it as a source of easy stories that you can do with or without participation. For storytelling in classrooms, *Twice Upon a Time* by Judy Sierra and Robert Kaminski (Wilson, 1989) has stories for participation and creative follow-up activities for kids.

—Nancy Schimmel

I developed the "organic" style from watching my friend, storyteller Mara Capy, tell stories using an African style of telling in which an audience member might say at any point in the narration, "Storyteller, I was present." The teller pauses and says, "And what did you see, my child [or woman, etc.]" The listener then tells her or his version and then the teller validates the listener by saying, "Ah, for sure, my child, you were there!" The teller then integrates the listener's vision into the

Sunman NARRATIVE

I am going to tell you one of the oldest stories in the world. It is based on a Bushman myth from Africa. You can help me tell this story. In many places in the world children and adults join in with song and gesture. Let me teach you the refrain in the story, so you can sing it along with me.

Sunman, Sunman, Bring us your light
Sunman, Sunman, Chase away the night.

Now let's add these gestures. Good.

story by improvising during the next part of the story.

I simply adapted the method to meet the needs of audiences in the northeastern part of the United States where students in assemblies are not always a real community, ready to share time and space as well as some other audiences might. In assemblies of 50-250 students, I tell the listeners that I will ask them from time to time about the pictures in their mind's eye. When I ask them to create a picture they can let me know that they have one by raising their hand. Then, at the time, I point to one person, listen to their "picture" and use whatever they give me, always validating their response with "You're right!" There is always at least one student who will turn to another, joyfully giggle and say, "I'm right!" This may be the only time that student has been right all day, or even all week! And in front

AUDIENCE RESPONSE OR TELLER'S ACTION

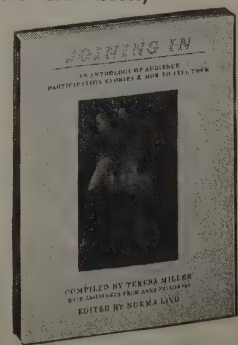
Sing the song two times.
Cross your arms near your waist and then lift them up, stretched out.
Repeat the song and gestures two or more times.

of all these people too! Creatively gifted students also benefit from this approach. They can create on their own levels, giving detailed scientific or wildly creative ideas.

Joining In

Teresa Miller and Norma Livo, 1988; 125 pp.

\$11.95 (\$15.45 postpaid) from Yellow Moon Press, P. O. Box 1316, Cambridge, MA 02238; 617/628-7894 (or Whole Earth Access)



Children Tell Stories

Some kids, you just tell them enough stories and they are storytellers. Others (you still need to tell them enough stories) are shy or ramblers and need some coaching. Those are the ones whose whole lives benefit from learning to tell.

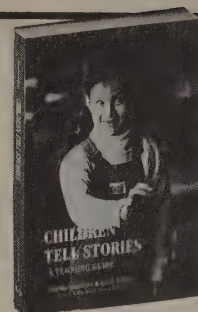
The Beauty & the Beast Storytellers, who wrote this book, have taught a lot of kids to tell stories, AND they checked the manuscript out with a lot of tellers and classroom teachers, so you get many experiences distilled into one organized, sensible, and readable whole. Actually, you don't have to be a kid to benefit from the hints and exercises and 25 easy stories this book includes.

—Nancy Schimmel

- Dialogue can help listeners feel as if the event is taking place right before them. As the American writer Mark Twain once said: "Don't say the old lady screamed. Bring her on and let her scream."

- Even very young children can be encouraged to retell stories, and some will grab any opportunity to do so, as Lois Foight Hodges, a librarian at the Schenectady, New York, Public Library, discovered:

"Called out of a preschool group one day I came back to find a five-year-old confidently seated upon my stool, halfway through 'Where the Wild Things Are' while the fourteen others gave her absorbed attention. (They don't always give me absorbed attention!)"



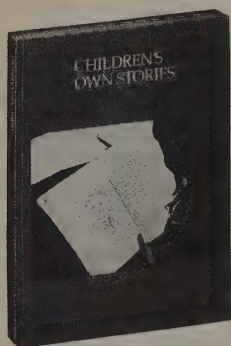
Children Tell Stories

(A Teaching Guide)
Martha Hamilton and Mitch Weiss,
1990; 209 pp.

\$18.95 (\$20.95 postpaid) from Richard C. Owen Publishers, P. O. Box 585, Katonah, NY 10536; 914/232-3903

Children's Own Stories

This is about storytelling not as perform-



Children's Own Stories

(A Literature-Based Language Arts Program; Grades K-4)

Lynn Landor, 1990; 112 pp.

\$20 (\$22 postpaid) from San Francisco Study Center, P. O. Box 5646, San Francisco, CA 94101; 415/626-1650

ance, but as creation and connection. Children, one at a time in small groups, tell stories, true or made up, to a trained volunteer who accepts them and writes them down, checking with the child that the story is written the way they want it. The stories go into a notebook for each child. No one corrects them. The children can read their own stories or each other's while in the small group or listen to the teacher. At the end of the year, each child has a book of his or her own stories to take home, and a copy goes in the school library if they want it to.

That's all, except that the children learn to be their own editors, their stories always get better over time, the children learn about each other's lives, and they feel better about themselves. So let's do it in every school. —Nancy Schimmel

- John and Raul found a witch in a creek. The witch's name was Carmen. She cast a spell on John. She turned him into a rabbit. She turned Raul into a carrot. The rabbit

got the carrot and ate it. After he ate the carrot, John said, "Yuk!" and he spit out the carrot. When the rabbit spit out the carrot, Raul and John became their own selves. That's the way we like it, uh-huh!

—Raul, 3rd grade

- On taking dictation (working as a COS parent volunteer)

"Sitting down at the typewriter at my daughter's school is pure pleasure for me. I love Children's Own Stories. The children yak and I type. It gives them a tremendous power over the language to have an adult operating a typewriter on command. It's as if somebody is handing them the keys to a Lamborghini and saying, 'Take this baby wherever you want.'

"The whole territory is theirs to explore: talking shrubs, frogs on fly-fishing expeditions, aliens, couch potatoes, nuclear war. They don't need to be able to spell or punctuate — just to imagine and communicate their ideas to someone. In the long run, those are the writing skills that really count."

The Boy Who Would Be A Helicopter

This is the kind of book I can read all day. A sharply observant and self-aware teacher presents me with all the fascinating details of young children's interaction in fantasy play without the noise and responsibility of actually being a teacher. And since I am a storyteller, her work with writing down the children's stories and having the group act them out under the direction of each story's creator brings me to the roots of my craft. She assumes this way of learning is available to every child — I think her practice of reading two books aloud to the class every day and reading to individual children on request may have something to do with their skill. —Nancy Schimmel

- "Get that kid!" Alex screams at Jason.

"Tie him in chairs. He-Man! That kid broke our castle!"

"Police 9-1-1 Calling He-Man police. There's a robber here!"

"My blade is broken," Jason whimpers, surveying the jumble he has created of Alex's building. "I'm fixing my blades."

"Police 9-1-1. Robber fixing blades on 84. Do-not-break-this-again-or-you-will-be-in-jail-for-a-hun-dred-miles."

"Okay," Jason calls out from inside the heliport.

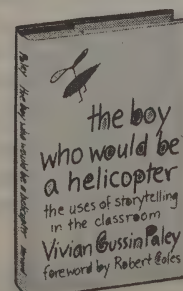
How would the time-out chair have improved the scene? Jason's unexplained destructiveness was incorporated into the drama, and a sensible solution was found by Alex, who himself frequently benefits from this sort of dramatic logic. The time-

out chair cannot compete with being in jail for "a hundred miles."

The Boy Who Would Be A Helicopter

(The Uses of Storytelling in the Classroom)
Vivian Gussin Paley, 1990; 163 pp.

\$19.95 (\$21.95 postpaid) from Harvard University Press/Customer Service, 79 Garden Street, Cambridge, MA 02138; 617/495-2600 (or Whole Earth Access)



Hot Air

Tips for Citizen Storytellers

BY JAY ALLISON

Jay Allison is one of the country's foremost independent radio producers. He has produced hundreds of radio documentaries, dramas, and audio art pieces for national and international broadcast, often working in partnership with his wife, producer Christina Egloff, and has received most of the major awards and fellowships in the radio industry. You can frequently hear his work on National Public Radio's "All Things Considered" and "Morning Edition," and on American Public Radio's "Soundprint." Allison also hosts the computer conference for radio producers on The WELL.

—Kevin Kelly

THE PUBLIC BROADCASTING system in America exists to serve the public. Increasingly, we measure the effectiveness of that service by the number of listener-dollars sent to local stations — producers devise programs to sell to the stations; stations carry the programs if listeners respond with contributions.

That's one way to provide service, but there are other models.

If a public station wants to reflect its local community, it makes sense to involve that community in programming. If the national network wants to reflect the diversity of the nation, it helps if the citizens take part. But how can the average person get involved in the creation of programming? In the case of public radio, this is surprisingly easy to do. The equipment required to get broadcast quality is inexpensive and readily available, and basic recording and interviewing skills are easily mastered.

If you are unsatisfied with the way your public radio system portrays life as you know it, consider doing the portraying yourself. What is going on where you live? What are the important stories? Whose voices should be heard? Consider taking on the role of Citizen Storyteller, and working on a grassroots level to make public radio more truly "public."

The following notes describe techniques for gathering raw material. The editorial process comes next. When your interviews have been made, you can take them to your local station,

or send them to the networks and national programs, and if the material has strength, it will (one hopes) be recognized. In the final stage, you would probably work with an editor to create a piece for broadcast.

One advantage to working in radio is that you are low-impact. When setting up interviews by phone, remind your interviewees that you are not a film/TV crew. It's just you and a tape recorder — non-intimidating. (They'll still ask you what channel it'll be on.)

Become comfortable with your equipment. If you are, everyone else will be. Check, clean and test all your equipment before you go out. Put in fresh batteries. Make test recordings. Be overprepared. Be a Boy Scout.

Have everything set up before you walk in. Sit in the car (or the subway station, or the bushes) to load and label your first tape, prepare your next tapes for fast changes, set your levels, etc.

For Vox Pop*, go where people are waiting. If it seems appropriate, walk right up with your sentence about

* Vox Pop = Vox Populi = Voice of the People = Man on the Street. Radio slang, like Acts & Tracks = Interview Actuality & Narration Tracks, the standard news report form.

what you're doing and attach the first question to it. I've heard it suggested that the best tape comes from people in funny hats.

Remember eye contact. Don't let the mic be the focus — occupying the space between you and the person you're talking to so you have to stare through it. I usually begin by holding the mic casually, as though it's unimportant. Sometimes I'll rest it against my cheek to show it has no evil powers. I might start off with an innocuous question ("Geez, is this as bad as the smog ever gets out here?"), then slowly move the mic, from below, into position at the side of the person's mouth, but not blocking eye contact. You'll find your own way of being natural with the mic, but it is important.

Don't be afraid to ask the same thing in different ways until you get an answer you're satisfied with. Remember you can edit the beginning and ending of two answers together, but be sure to get the ingredients. If a noise interferes with a good bit of tape, try to get it again. You can blame it on the machine, but it might be better just to wrap the conversation back to the same place so you don't get the quality of someone repeating himself.

For repeat answers or more enthusiasm, try "What?!" or "You're kidding!" or "Really?" Remember the question: "Why?"; especially following a yes or no response. Don't forget the preface: "Tell me about . . ."

Let people talk. Allow silence. Don't always jump in with questions. Often, some truth will follow a silence. Let people know they can repeat things — that you're not on the air — it's ok to screw up. And remember to offer something of yourself. Don't just take. Think of the listener's innocence; ask the obvious, along with the subtle.

If you're recording more than one person at a time, get them to gather around you and follow the conversation with your microphone.

In general, it's risky to let the interviewee hold the microphone. Some-

times lavalier mics can be helpful, but they attract noise and eliminate your control. Try to record away from hard surfaces — walls, etc. Don't record across a desk because you can get phase cancellation from the reflected sound.

If you want a quiet interview, try to get on a couch in a room with curtains and a rug. Set everything up the way you like it before you start. Be sure to check for interfering noise, like air conditioners, fluorescent lights, refrigerators, traffic, radios, noisy crumpling of candy wrappers in front of the microphone, etc. Get away from noise or have it turned off. A musical background is very difficult to edit. Loud hums are annoying, because they add nothing and don't make sense.

Often a noisy environment is exactly what you want. And be sure also to get the noise by itself without any talking over it.

I often like to move around during interviews. Get people up and walking — "Show me." This can relax people and take their minds off the recording. Have the person describe where you are and what you're doing. Refer to objects and sights around you. But try to keep the mic close to them. All this will reinforce a sense of place, action and immediacy for the listener. Moving around also gives you a variety of acoustical environments as structuring options in your final piece: possibilities for movement in time and space.

If you interrupt or overlap your voice with your interviewee's, you won't be able to edit yourself out. This will eliminate that sense of the interviewee communicating directly with the listener; instead the listener will be an eavesdropper on your conversation. It commits you to a production decision. If you want to leave your production options open, don't laugh out loud, or stick in "uh-huh" or other vocal affirmations. You must let your subjects know you're with them, but use head nods, eye contact, and develop a silent knee-slap and guffaw.

If you do want your presence in the interview, think about perspective. Do you want your voice to be very on-mic? If so, then you should move the mic up to your own mouth for your questions. Do you want to defer the primary focus to the interviewee, but have your questions audible? Then, pull the mic back halfway to yourself or speak up loudly.

Use mic distance as a volume control, i.e. move in for whispering and out for loud laughter. Don't change the volume at the machine for this kind of quick change. You can use the built-in limiter or automatic gain control (AGC or ARL) in very changeable level situations. If you are in a very noisy background that you want to reduce, mic your subject even more closely (2-4 inches) and reset your record levels. Use the highest quality tape (Maxell XLI-S or XLII-S or similar) in 60- or 90-minute cassettes, nothing longer. In general, use noise reduction if you have it.

Close-mic . . . about six inches from the speaker's mouth and a bit off to one side to avoid P-pops. Go closer if they speak very quietly, or further away if they are loud.

Wind, handling, and cable noise are some of the most common recording problems. Use windscreens/pop-filters and try to get out of the wind. With the body of the microphone, as with so many things, learn to have a light touch. Don't let the mic cable bang around or rustle on your clothes. Check that all your cables have good, noise-free connections at both ends. Monitor with headphones to check for these problems.

For recording most sounds or voices you want the meter peaking a little above zero, never pegging at the limit. Some machines are more forgiving than others. In general, shoot for a record level between 5 and 8 on the mic input knob. Setting levels is a balancing act between distortion at the top and noise at the bottom.

Don't use the pause button. It uses up the batteries, and if you're listening through headphones, it can fool

Tips & Tools

- Contact your local public or community radio station to ask about their policies. See if they have training programs. If they are not open to community involvement, ask why not.

- National Public Radio offers entry-level workshops for producers and reporters — for information, call NPR Training at 202/822-2000, ext. 2735.

- Regional media centers often provide training and cheap equipment rental. Two good ones are Western Public Radio (Fort Mason Center, Bldg. D, San Francisco, CA 94123; 415/771-1160) and The Public Media Foundation (74 Joy Street, Boston, MA 02114; 617/720-1958).

- A useful book on radio production is *Audiocraft* by Randy Thom, available through the National Federation of Community Broadcasters (666 11th Street NW, Suite 805, Washington, DC 20001; 202/393-2335).

- And there is an organization for individual audio/radio producers: The Association of Independents in Radio (P. O. Box 2505, Church Street Station, New York, NY 10008; 212/587-0328).

Radio Producers' Remote Recording Equipment Needs

Basic mono kit (approx. \$350): Marantz PMD 201 mono cassette recorder; Electro-Voice RE-50 microphone.

Advanced stereo kit (approx. \$1,200): Sony TCD-5 Pro stereo cassette recorder; two Sennheiser K3-U microphones with assorted capsules; Sony MDR-V6 headphones.

These and similar products are carried by many outlets. Bradley Broadcast (800/732-7665) in Gaithersburg, MD, has an excellent catalog for browsing.

you into thinking you're recording when the tape isn't moving.

Once in while, during recording, look to see that the reels are turning. If you have a three-head machine, put it in tape mode occasionally to make sure it's recording properly. If you have a two-head machine, wind your tape back at some point and listen to make sure everything is okay.

Omnidirectional, dynamic mics are the best choice for all-purpose interviewing and basic sound-gathering. Unidirectionals are good for noise rejection from the sides and rear and for stereo in pairs, but they are sensitive to wind and handling. Powered mics (electrets and condensers) have good response and high output, but they are sensitive to wind, handling, humidity and dead batteries.

Try recording with headphones. They are almost essential for stereo recording. And they're always helpful for catching wind noise, handling noise, cable rustle, RF interference, P-pops, hums you didn't notice, nervous scratching, and other hazards like forgetting to turn on the tape recorder. If for some reason you must conserve batteries, unplug the headphones.

Make idle conversation when you

must turn over or change the cassette, so you don't break your flow or re-attract attention to the recording gear. But don't take that moment to inspire a wonderful response.

Sometimes I make a list of questions before an interview and half-memorize it. I don't follow it during the interview, but keep it handy to check before the end to pick up anything I forgot.

Get all the sundry sounds and room tones, like phones ringing, dogs barking, clocks ticking, etc. — they can be useful for editing. Leave the machine running for stuff that seems irrelevant — it might not be. Yes, leave the recorder running. If you turn it off, they'll say the most perfect thing you ever heard. Don't pack up your stuff until you are gone. Allow people the chance to say things in conclusion. Ask them who else you should talk to. You might want to record them saying their names and what they do.

Get a minute or so of ambience — more if it's good sound. Record from various distances and perspectives. Experiment. For example, a toilet flush is very different recorded from five feet away than with the mic resting on the plumbing.

You can't record too much. Tape is cheap. Collect and catalog sound effects and ambiences. Save everything, including your notes. Don't erase.

Remember you can always use your recorder like a dictating machine, either for on-location narration or for note-taking. Don't forget to look as well as listen. Note specifics about what you see and feel. Immediately after an interview, make some notes about what you remember . . . what mattered.

Label everything. Pop out the safety tabs in your cassettes after you've recorded, so you can't accidentally erase them. Never throw away a master. Make safety copies of precious stuff.

Take plenty of extras — spares of everything, depending on how long you'll be on location — tape recorders, assorted microphones, cables, tape recorder batteries, microphone batteries, tapes, AC cord/adaptors, extension cords, windcreens, headphones, lots of plug/jack adaptors, patch cords, mic stands, shock mounts, Rowi clamp, gooseneck, duct tape, electrical tape, cleaning and demagnetizing gear, pens, paper, labels . . . ■

DECLARATION ON SOIL

BY SIGMAR
GROENEVELD,
LEE HOINACKI,
IVAN ILLICH
AND FRIENDS

"You just might want to mention this as my program for 1992," wrote Ivan Illich in the note accompanying this manifesto. "1992" refers to the year when the European Economic Community is meant to make most of Europe into an economic unit that can challenge not only the US but Japan. Illich is a lifelong scholar of the commons, the infrastructure of real community which precedes economics based on scarcity, and which may follow it. From berating institutions such as schools (After Deschooling, What?), hospitals (Medical Nemesis: The Expropriation of Health), and even languages (ABC: Alphabetization of the Popular Mind, with Barry Sanders) which create scarcities in order to trade in them, Illich now joins the battle for the commons of soil. —Stewart Brand

THE ECOLOGICAL discourse about planet Earth, global hunger, threats to life, urges us to look down at the soil, humbly, as philosophers. We stand on soil, not on earth. From soil we come, and to the soil we bequeath our excrement and remains. And yet soil — its cultivation and our bondage to it — is remarkably absent from those things clarified by philosophy in our Western tradition.

As philosophers, we search beneath our feet because our generation has lost its grounding in both soil and virtue. By virtue, we mean that shape, order and direction of action informed by tradition, bounded by place, and qualified by choices made within the habitual reach of the actor; we mean practice mutually recognized as being good within a shared local culture which enhances the memories of a place.

We note that such virtue is traditionally found in labor, craft, dwelling and suffering supported, not by an abstract earth, environment or energy system, but by the particular soil these very actions have enriched with their traces. And yet, in spite of this ultimate bond between soil and being, soil and the good, philosophy has not brought forth the concepts which would allow us to relate virtue to common soil, something vastly different from managing behavior on a shared planet.

We were torn from the bonds to soil — the connections which limited action, making practical virtue possible — when modernization insulated us from plain dirt, from toil, flesh, soil and grave. The economy into which we have been absorbed — some willy-nilly, some at great cost — transforms people

into interchangeable morsels of population, ruled by the laws of scarcity.

Commons and homes are barely imaginable to persons hooked on public utilities and garaged in furnished cubicles. Bread is a mere foodstuff, if not calories or roughage. To speak of friendship, religion and joint suffering as a style of conviviality — after the soil has been poisoned and cemented over — appears like academic dreaming to people randomly scattered in vehicles, offices, prisons and hotels.

As philosophers, we emphasize the duty to speak about soil. For Plato, Aristotle and Galen it could be taken for granted; not so today. Soil on which culture can grow and corn be cultivated is lost from view when it is defined as a complex subsystem, sector, resource, problem or "farm" — as agricultural science tends to do.

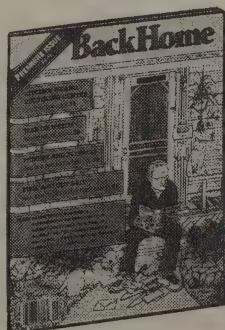
As philosophers, we offer resistance to those ecological experts who preach respect for science, but foster neglect for historical tradition, local flair and the earthy virtue, self-limitation.

Sadly, but without nostalgia, we acknowledge the pastness of the past. With diffidence, then, we attempt to share what we see: some results of the earth's having lost its soil. And we are irked by the neglect for soil in the discourse carried on among boardroom ecologists. But we are also critical of many among well-meaning romantics, Luddites and mystics who exalt soil, making it the matrix, not of virtue, but of life. Therefore, we issue a call for a philosophy of soil: a clear, disciplined analysis of that experience and memory of soil without which neither virtue nor some new kind of subsistence can be. ■

BackHome

A while back, the once-famous *Mother Earth News* went slick. With its roots cut, it soon wilted and died. Some of the non-slickers from *Mother's* original crew have revived the original idea, if not the name. It's just about what you'd expect, but pleasingly minus most of the countrified hype that occasionally sullied past efforts. The Winter issue includes features on making toys from cans, how to reload rifle ammo, and what to realistically expect if you decide to keep a horse. There's a bit on choosing an old Chevy pickup, advice on back-saving woodsplitting technique, the mandatory recipes, and an article on bonsai. There's a lot more. Interesting ads, too — a good sign. It's all most reassuring, especially to would-be and just-arrived rural folk. I'm glad to see this publishing niche filled once again.

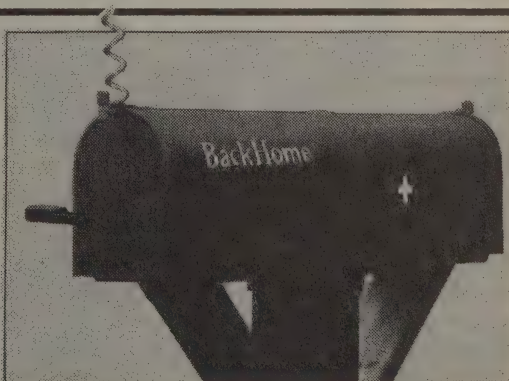
—J. Baldwin



BackHome

\$16/year (4 issues) from P. O. Box 370, Mountain Home, NC 28758; 704/696-3838

■ The corkscrew flag on our mailbox isn't just decorative but works as a signal to let you know from a distance that the mail's been delivered. It's nothing more than a



Swiss Army mailbox.

dog's tie-out stake fastened to a few 1/8" plumbing parts so it pivots. After picking up your mail, you reset the counterweighted end on an extra catch attached to the door. The carrier does the rest when he or she drops off a delivery the next day.

by Anne Herbert

COMPARE and contrast: History of People. History of Man. Man Invents the Wheel. People Invent the Wheel. Man's Search for Meaning. People's Search for Meaning. The trouble with Man is not just that he's a man, but that there's only one of him. One tall, clear-eyed, well-hung, jut-jawed male striding through the ages toward a goal both logical and grand. The History of People sounds messy and casual and it was.

of the event. When I first saw *Snake Talk*, I didn't know Naomi Newman. Now we're friends, and I've seen her be grateful and amused by people's recurrent attendance of her play. "Why do you want to see *Snake Talk* again?" she'll say. "You've seen it."

For Naomi, and for other people flummoxed by friends who repeatedly go to concerts, art exhibits or meetings they've already been to, I've got a guess. It's kind of harsh here on the old planet. People are hard on each other. The latest communication technology trumpets lies and terrors and recommendations of nasty behavior. Our soft hearts flinch inside and wonder if we're crazy for feeling it wouldn't be all that hard for things to be balanced and truthful and kind.

SNAKE AND OTHER PLANETS THAT WE MAKE

Anne Herbert is an old-time Whole Earther, a compassionate person, and a wonderful writer. This article was originally funded by a grant from the Foundation for a Compassionate Society; it is a part of Anne's current work-in-progress, a book on women's wisdom.

Video and audio recordings of "Snake Talk: Urgent Messages from the Mother" are available from A Traveling Jewish Theatre, P. O. Box 421985, San Francisco, CA 94142 (415/861-4880). Audiocassettes are \$11 post-paid, videos \$34. Checks should be made out to Naomi Newman. Booking information is available from the same address.

—Howard Rheingold

Maybe inspiration means something that helps you breathe, something that gives you room to breathe in deep.

When Naomi Newman's one-woman show *Snake Talk: Urgent Messages from the Mother* played in Berkeley last year, I saw it seven times. When *Snake Talk* plays again near me, I'll probably see it several times more than once. Lots of people have seen *Snake Talk* four or five times.

That is as nothing compared to the many people who see dozens, or hundreds, of Grateful Dead concerts in a year, but it got me thinking about the again phenomenon. There are some events that people who love them go to about once, and there are other events that some people who love them attend frequently if at all possible. Why is that? It's a reaction not necessarily expected or understood by the people seemingly in charge

There are some events that for some people create the experience of what it would be like to live on a different, less vicious planet — what it is like for the length of the event. We go back to learn what it's like to live in our hearts.

The best known frequent attenders around here are Deadheads, people who go to lots of Grateful Dead concerts. I'm pretty calm about the Grateful Dead's music, almost (forgive me, Deadheads) indifferent, but I'm a big fan of Deadheads — the ones I know I like a lot. I like how happy they are when they're off to a concert, and I like their approach to life which is sort of the opposite of "You wanna fight about it?" They're more "You wanna work it out and have fun?" I'm glad they can visit an-

other planet and practice that approach and bring it back to our shared general reality, which needs it badly.

General reality, the well-publicized story about the way things are that we're all supposed to act like we believe in, is weirdly inhuman. The alleged humans most publicized aren't human. They think the difference between Coke and Pepsi is very significant. They never admit to what is probably one of the most common problems in our society — loneliness. They either have no problems at all or they had one problem and they're on TV to say they just solved it forever. They never say that sometimes life seems to them grey and nothing or that life sometimes seems so aglitter with joy that it would scarcely matter what brand of anything you use. They're good at pretending they are like other people who are good at pretending they've really got it together.

the mirror and saying, "It's show-time!" I like shows that imply, or show, that we don't have to put on a harsh, pseudo-perfect show for each other to live. I like being in rooms of people where we are safe showing our whole selves, so I can learn that there is more to myself and everybody else than I'd suspect walking down the nervous streets or watching commercials.

"When one has matured surrounded by implicit disparagement, the undiscovered self is an unexpected resource." That's Mary Catherine Bateson in *Composing A Life*, talking about women learning to understand their lives by comparing notes with women friends. Women have matured surrounded

by implicit disparagement of their knowledge and ways of knowing and so have minority people, and so have people of all genders who don't want to let their softness go — and who don't want to join the ranks of those for whom knowing and being angry and dominating are all the same process.

When I went to see *Snake Talk*, I felt like I'd regrown an arm that I'd forgotten was amputated. The missing part that came back in that room was my future.

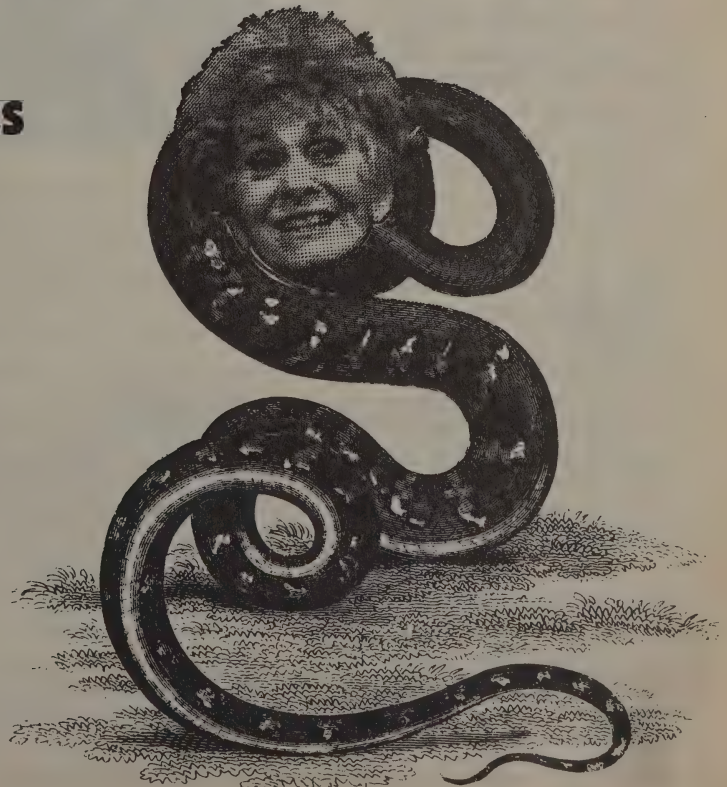
What apparently happens in *Snake Talk* is that Naomi Newman becomes three women — a poet, maybe in her fifties; a yenta, maybe in her sixties; and a woman without a home, maybe in her seventies. These women speak to the audience like old friends comparing notes about life and dis-

TALK

AMONG OURSELVES

When actual humans compare themselves to such fantasies, we feel really wrong, like we're too much and too little at the same time — too much complexity and too little perfection. The actual human quotient of problems, longing for community, spiritual longing, wisdom, contradictory experiences, specific cultural background, joy and pain seems like it's way too much to fit into the general reality pretend game.

At the beginning of the movie *All That Jazz*, the guy who is leading an impossibly fast and dishonest life starts each day by looking in



covering undiscovered selves of light and shadow. It reminds me of long conversations with friends where shields drop and we say things that will help us make it through hard times for a long time, for decades.

I didn't know until older friends told me that women become invisible in public as they age. I didn't know it, but I was practicing it. When people watching, I would look at and wonder about everyone except women I classified as old, who I would skip over without pause or thought. In some part of me I must have thought that I would become a non-entity too when I lost the potential to make little Americans. Seeing women decades older than I (I'm 39) take up space in *Snake Talk*, take up a whole stage, make up a whole world, changes my world, inside and out. It looks like women who don't totally shut down to avoid pain really know something by the time they're fifty and more and more in the decades after that. It looks like I, as a woman, could have a long, wise future. That idea is so foreign to most places where I hang out that I didn't even know I was missing it.

Another thing *Snake Talk* made real for me was who my spiritual teachers are. I used to think I was allergic to spiritual teachers who seemed to be straight guys in dresses acting like they don't have a sense of humor — the Pope, the guru, the Protestant minister in a robe. The wisdom in *Snake Talk* seemed very familiar and helpful and nothing like what the grumpy guys in drag say. It seemed like what me and my friends say to each other when we're really talking. When we're really talking to each other we're being each other's spiritual teachers. I knew that kind of talk was very valuable but I didn't know it could get much bigger than a kitchen table. I didn't know it could be lit and supported and take up a whole theatre. That implies it could take up even more space, that it could heal some of the places general reality and grumpy guys in charge are

Does the wisdom of older women have to be invisible and inaudible and the wisdom of friendship small? Snake Talk implies no — it implies a world where I could live in a livelier way.



Valerie Haimowitz

devastating. Does the wisdom of older women have to be invisible and inaudible and the wisdom of friendship small? *Snake Talk* implies no — it implies a world where I could live in a livelier way.

I'm a Snake head — no objectivity about *Snake Talk* here. If *Snake Talk* sounds to you like the kind of thing you might like, you might love it. More important to me than *Snake Talk* specifically is knowing that loving stuff like that happens. Sometimes a group of people are together in such a way that it really is a different, more livable planet. That happens. It happens in different people in different ways, but it is not rare. The grumpy guys in charge would like this to be an asphalt planet and all

humans shattered into bits and covered with goo and flattened that the grumpy guys in charge might smoothly continue to zoom, running their power trips on our lives. So when something opens us up to the texture and richness and gentleness in ourselves and in each other and life feels different, the grumpy guys in charge would like to say that it didn't happen, or, as a fallback position, that it's very rare. It's dangerous and inaccurate for us to think it's very rare because then when it happens to you you'll think this is the only garden on an asphalt planet and if the person in charge happens to want you to amputate your leg in thanks for them growing your arm back, you might do it.

There are lots of gardens on the planet. There are lots of planets on the planet, true ones and soft ones and loving ones and ones that fit who you really are. It happens. Sometimes love becomes an area and we see and feel and live how good things can be.

In times before Bible times, women and snakes were considered wise. Snakes gave women good advice, were spiritual advisers to women who were spiritual advisers to the whole community. The Garden of Eden story where a woman listens to a snake and the whole world is messed up is probably a smear campaign against the wisdom of women and sources of women's wisdom. The part of the story where it says women and snakes will always hate and fear each other may have been a way of saying, "Women, never listen to your source."

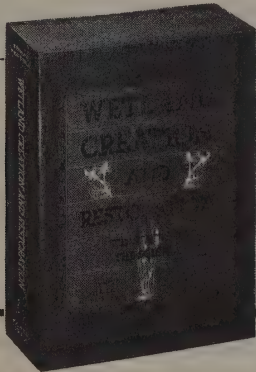
We say to each other in a lot of ways never listen to your source, and it makes us lonely. If we find a place that reminds us of our source and lets us live with ease in our source for a while, we go back. When I go to *Snake Talk* again the power of the experience is not so much what Naomi says but that her speaking from her source clears my heart and I can hear what my source has to say — my own snake talk. ■

In Praise of Nature

If you've read everything *Whole Earth* has published over the years, you'll be familiar with most of the books (and reviewers) in this collection. But former *Co-Evolution Quarterly* editor Stephanie Mills and *Whole Earth Review* contributing editor Jeanne Carstensen offer us something essential to the environmental tasks ahead of us: access to inspiration.

Built around five short essays (on Earth, Air, Fire, Water, and Spirit), the meat of *In Praise of Nature* is its evocative reviews of, and excerpts from, dozens of the best books on nature and on humankind in nature. The writers have been well matched to their subjects, and the reviews, while substantive, have a tone of celebration about them. —Keith Jordan

Learning to provide for ourselves, to care for the places in which we live, and to restore them to biological health; learning to thrive using the renewable energy flows of the elements; studying the natural histories of our home places and discerning in them the outlines of our future self.

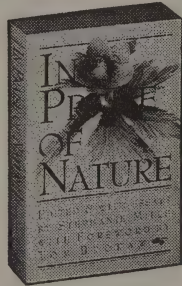


reliance; consecrating large land areas across every continent as wilderness — shrines where entire ecosystems may continue in their evolutionary destiny — all of these actions aim at becoming native again to place; bioregionalists call it reinhabitation. Reinhabitory humans make love to their home places, bringing forth a wealth of cultures, songs, images, teachings, inventions, musics, and cuisines. Part of the hope in spirit, paradoxically, is coming back to our senses, and being able once again to revel in them.

In Praise of Nature

Stephanie Mills, Editor. 1990; 288 pp.

\$14.95 (\$17.95 postpaid) from Island Press, Box 7, Covelo, CA 95428; 800/828-1302 (or Whole Earth Access)



Wetland Creation and Restoration

Jon A. Kusler and Mary E. Kentula, Editors. 1990; 594 pp.

\$39.95 (\$42.95 postpaid) from Island Press, Box 7, Covelo, CA 95428; 800/828-1302 (or Whole Earth Access)

Wetland Creation and Restoration

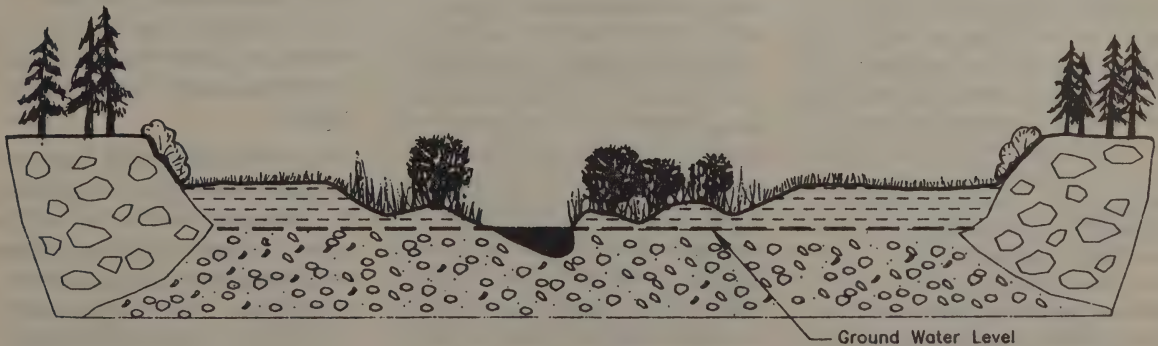
Around forty percent of U.S. wetlands have been destroyed. Biologically they are one of the richest and most important of all ecosystems. The product of ongoing research at the Environmental Protection Agency, this fat collection of scientific papers lays the groundwork for devising a national wetlands policy based on "no overall net loss of the nation's remaining wetlands."

The key word here is "net." Some wetlands will still be destroyed. This will require mitigation, which leads directly to the operative words of this book: "creation and restoration." The political purpose behind assembling and publishing all these dry technical papers is to keep this whole exercise from turning into a very soggy shell game. George Bush has gone out of his way to affirm a "no-net-loss" wetlands policy as part of his feeble (thus far) efforts to stake a claim as an "environmental president," but there ain't nothing comes down that DC pike that John Sununu can't take an axe to.


The science here (as the authors are quick to point out) has huge gaps in it — research, monitoring and follow-up that have simply never been funded, never been attempted. The editors call this book "a preliminary evaluation of the status of the science," and they're right. It's an important step along a very long and slippery trail. —Richard Nilsen

Riverine/riparian habitat in a glacial (U-shaped) valley.

RIVERINE/RIPARIAN HABITAT



 STREAM DEPOSITED (Fluvial) SEDIMENTS

 STREAM/GLACIER DEPOSITED (Glaciofluvial) SEDIMENTS

 GLACIAL DEPOSITED (Morainal) SEDIMENTS

Botanical Preservation Corps Meets

Ecuadorian

SHAMAN WOMAN

by Rob Montgomery

T

HE BOTANICAL Preservation Corps recently trained forty people in plant collecting and rain-forest ecology. The trainers were anthropologist/ethnobotanist/river guide Bret Blosser, trans-cultural psychologist Ralph Metzner, ethnopharmacologist Jonathan Ott, and me. The training focused on preservation of ethnopharmacological resources. The Australian, Ecuadorian, Mexican and North American participants in these courses actually created a nursery facility for a medicinal garden at Jatun Sacha Biological Station, a scientific reserve in Amazonian Ecuador.

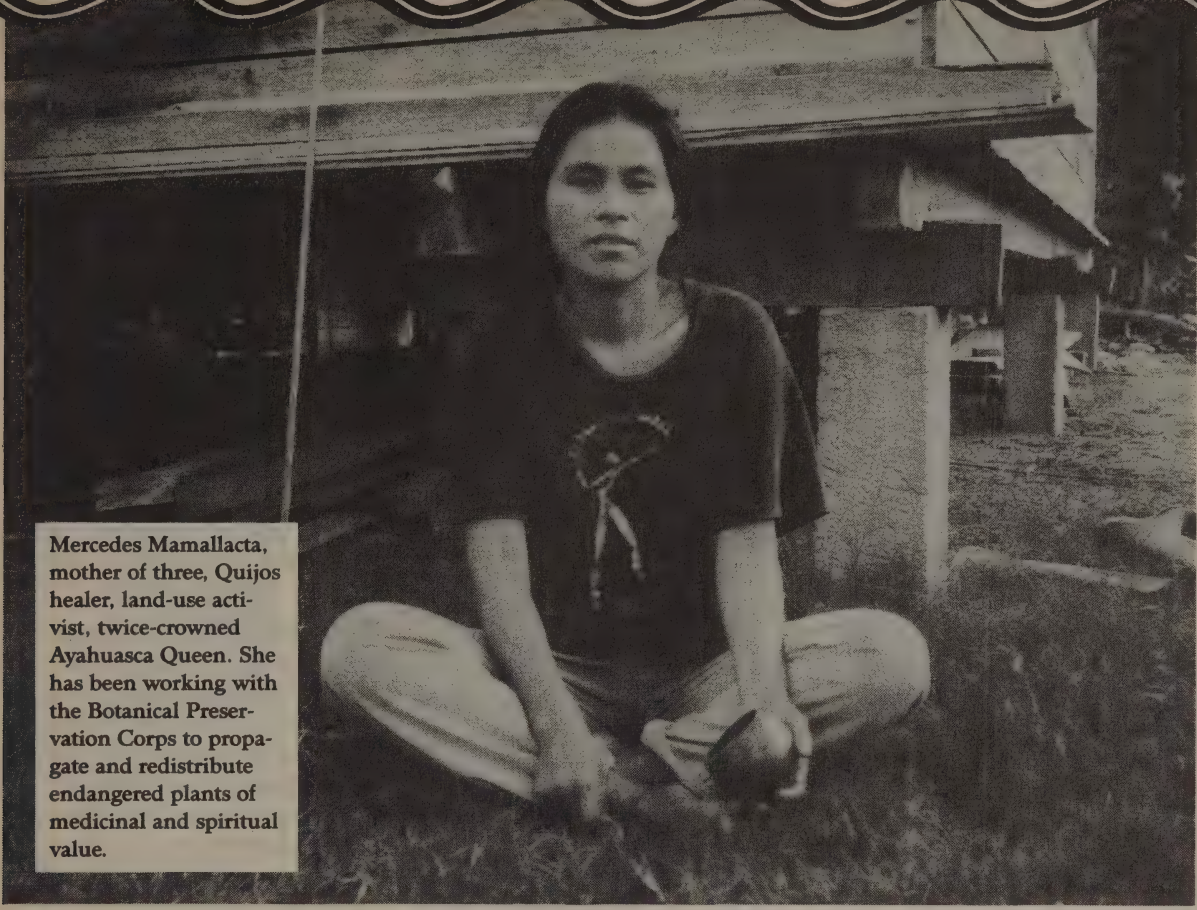
Communities of indigenous healers are finding it harder and harder to obtain plant medicines as the forests disappear around them. Healers have to spend more of their time searching for medicinal materials, which means fewer people can be treated. Part of our project was aimed at gathering some of the primary forest species that indigenous healers rely on for healing, propagating them, and redistributing them to these communities. Many of these plants have never been cultivated by native people or anyone else; because they have always been gathered wild, nobody knows how to grow them from seeds

or cuttings. We plan to help plant healers restore the plants in secondary-forest mixed plantings to create high-density living pharmacies for these communities; there is less development pressure on secondary forests and, as primary forests are cleared, there are a lot more secondary forests available that commercial interests find less desirable. The nursery will serve as a center where the plants can be propagated and as a demonstration project so indigenous healers can learn to set up their own nursery projects. Short- and long-term internships at the nursery can be arranged through BPC. Duplicate plant material is growing in botanical gardens in Hawaii, in order to preserve the species and make biomass available for pharmacological and medical research.

Our group assembled in Quito and chartered a bus for the back country. We made a number of canoe trips in the upper Rio Napo region to collect plants, bringing plant material back to the nursery facility. We also visited a number of Ayahuasceros (folk healers accomplished in plant identification and use, as well as the use of spiritual medicine). The Ayahuasca cult is widespread throughout South America and is of unknown antiquity. The Ayahuasca potion, brewed from

I met Rob Montgomery two years ago, when I co-guest-edited WER #64. The idea of a Botanical Preservation Corps seemed to pop out of the first conversation Rob and I had; the notion immediately took on a life of its own, and it has been growing ever since. All of us involved in it feel that spiritual plants have done a great deal to help us; now that the plants, their environment, the knowledge of how to use them, and the people who have gained that knowledge are all endangered, it is time for us to try to help in our own way. In WER #69, Rob made a plea for somebody to help organize and manage the paperwork; we are delighted that Stephanie Leonard, the Cyberthon organizer for the Whole Earth Institute, and Lori Woolpert, former production manager for Whole Earth Review, have taken up the challenge. For information about how to join the effort, send a stamped, self-addressed envelope to Botanical Preservation Corps, P. O. Box 1368, Sebastopol, California 95473.

—Howard Rbeingold



Mercedes Mamallacta, mother of three, Quijos healer, land-use activist, twice-crowned Ayahuasca Queen. She has been working with the Botanical Preservation Corps to propagate and redistribute endangered plants of medicinal and spiritual value.

Banisteriopsis caapi and admixture plants (most commonly, *Psychotria viridis*), contains potent psychoactive chemicals as well as powerful vermifuges; shamanic use of Ayahuasca includes a rich mixture of medical, spiritual, cultural, and psychological lore, adherence to special dieting and behavioral disciplines, and intensive training processes.

One of the native healers who helped teach our course was a remarkable woman by the name of Mercedes Mamallacta (Mamallacta means "mother earth" in the Quichua language). She is thirty years old, the mother of three, daughter of a long lineage of prominent healers of the Quijos people. In an area and era of cultural disruption, where many of their neighbors are ashamed

of their Indian heritage, this family is working to preserve their legends, oral history, songs, dances, theater, ethnobotany, and their forest, which is at the heart of their culture. The Ecuadorian government has granted the Quijos a reserve, operated as a membership cooperative; each tribe member has the opportunity to pay the equivalent of US\$50 for permanent access to 150 hectares of primary forest in their traditional homeland. Many tribe members want to log their 150 hectares for quick money. The Mamallacta family is trying to convince as many others as possible to preserve the land. The headwaters of the Rio Pusunu, the critical watershed for the entire reserve, are a particular focus of this effort — the Mamallactas and their allies want to get all the parcels linked together to prevent others from buying, selling, and logging. BPC is channeling \$50 donations to

help conservation-minded tribal members to buy parcels and keep them out of the hands of those who want to sell out.

The Mamallacta family live on Galerías ridge, an area that had traditionally been avoided by the Quijos tribe because of legends of intense spiritual energy — giant boas, snakes, legendary beasts. At some point in the past, the forebears of the Mamallacta family felt that their Ayahuasca mastery had given them the power to deal with these forces and moved into the shunned area generations ago. In that region there is an annual cultural festival in which young people have a contest to test their knowledge of the culture and of plant use. One of the major parts is a kind of Ayahuasca contest that

tests mastery of the lore, the plant use, and its history — a mixture of cultural knowledge, psychological and spiritual power, a kind of talent contest. The young women dress in Ayahuasca-derived costumes and are tested by their elders on their knowledge of ethnobotany. Mercedes Mamallacta won the "Ayahuasca Queen" title two years in a row, a rare achievement.

Five of us hiked in to the Galeras ridge with the Mamallacta family, collected plants, and recorded information about their use. It took three days of nonstop marching over extremely rough terrain and obscure trails. We realized that there are many plants found only in that forest. We collected as many of these plants as we could carry and recorded information about them told us by the Mamallactas, then brought them to the nursery for propagation. Our hope is to provide the cultivars to knowledgeable members of other indigenous com-

munities who still know how to use the plants, but find them difficult to obtain.

Mercedes is part of a tribal society of female shamans, something that has not been documented by outsiders; she is one of the preservers and promoters of this heritage. The society includes a body of knowledge of the use of plants in pregnancy and childbirth, women's relationship to the sacred and spiritual realm through the use of these plants in ways that are different from those of the male shamanistic societies.

When she gave me the Ayahuasca brew, she reminded me of something that Ralph Metzner had taught me: "You must not experience this passively. You must actively question the world to find out what it has to tell you. Even the most unimportant perception might lead to knowledge." Then she left me alone as the night fell over the jungle and the potion began to take effect.

I kept hearing a mosquito buzzing. It was affecting my concentration, so I decided to ask the mosquito

what it had to teach me. The moment I did that, a rainbow-colored substance appeared in mid-air in front of me. It was like a three-dimensional cylinder, like rainbow toothpaste squeezing out of an invisible tube. The ribbon of color started to extrude more rapidly, grew very fine, and began to weave a kind of fabric or pattern in the air in front of me. In no time at all, the pattern wove itself into, of all things, the interior of what looked like a starship, with life support systems and portholes and instruments. And then the mosquito wove itself into a tiny starship-builder that was assembling this sight before my eyes as I watched. It said to me: "This is who I am. This is what I do."

The Ayahuasceros say that the plant itself is a teacher. It teaches one how to use it, how to use other plants, how to live. I'm not sure yet what that mosquito taught me. But I know what Mercedes meant when she told me to pay attention to the tiniest perceptions. ■

Amazonia

This is a catalog of organizations working to protect the people and resources of the Amazon rainforest. It lists groups active in nations within the Amazon Basin and around the world, and gives an excellent overview of the development issues in the region and their impacts on indigenous peoples. —Richard Nilsen

Unless the social and political complexities of life in the Amazon are understood, all the international campaigns and good in-

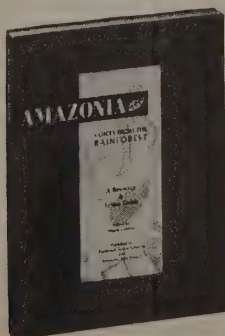


The Movement of the Landless helps the farmers of southern Brazil hold on to fertile lands and avoid migration to the Amazon.

Amazonia

Angela Gennino, Editor. 1990; 92 pp.

\$10 postpaid from Rainforest Action Network, 301 Broadway/Suite A, San Francisco, CA 94133



tentions in the world will not keep a single tree standing.

- Percentage of Earth's fresh water flowing through the Amazon: 20
- Ratio of the Amazon's flow to that of the Mississippi: 11:1
- Cubic meters of water flowing through the Amazon's mouth per second: 198,000
- Days required for the Amazon's flow to exceed the yearly flow from the Thames: 1
- Hours required for the Amazon's flow to fill a hypothetically drained Lake Ontario: 3

COICA (Coordinating Body for the Indigenous Peoples' Organizations of the Amazon Basin)

Objectives: In the last two decades, indigenous leaders of Amazonia have seen an increasing number of governments, banks, and aid agencies make policy decisions about the development of the Amazon. . . .

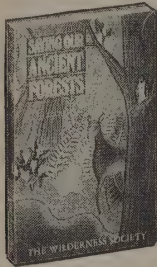
In 1984, COICA was founded to address these issues by the national Indian organizations of five nations. Six years later, COICA has become the international representative of almost all indigenous peoples living in the South American rainforests, and is regarded as the Indian voice of Amazonia today.

In the U.S.:

Contact: Jane Wholey, Esopus Creek Communications, 1011 Orleans St., New Orleans, LA 70116 U.S.A. Phone: (504) 522-7185.

Saving Our Ancient Forests

Push has come to shove in the timber business because the resource has been exhausted. At the same time, scientists have only recently pieced together how an old-growth forest functions as an ecosystem. This book neatly summarizes the politics and the science, and mixes them with activism. The writing communicates down to about the junior-high level, making it an obvious choice for any librarian. All of which makes this book a quick and painless way for adults to get up to speed on the fate of our dwindling old-growth forests. —Richard Nilsen



Saving Our Ancient Forests

Seth Zuckerman, 1990; 116 pp.

\$5.95 (\$8.95 postpaid) from The Wilderness Society, P. O. Box 296, Federalsburg, MD 21632-1296

New Forestry, brainchild of ancient forest scientist Jerry Franklin and his colleagues, tries to imitate the state of a forest after a

moderate fire. Fire rarely kills all the trees in a grove; a few trees of various sizes, species and ages are usually spared. Similarly, under New Forestry practices, several live trees per acre remain when an area is logged. Most large snags stay and logs are left strewn across the ground. These practices are aimed at leaving a "biological legacy" to shelter wildlife and speed the renewal of the forest. Although New Forestry is still in the experimental stages, several national forests — including the Siskiyou and Willamette in Oregon — have already decided to use this approach on tens of thousands of acres.

The current price of wood reflects the cost of extracting a tree from the ancient forests, not the cost of replacing it by growing a new tree in its place. As an indication of this, the countries that buy logs from the Pacific Coast — primarily Japan, China, and Korea — exhausted their ancient forests long ago. They now value wood quite highly and therefore bid much higher prices for timber than Americans do. Port Orford cedar, once favored by Americans for making arrow shafts, is unavailable in the United States because it commands such high prices from Japanese builders.

Cornucopia

Some of the most amazing horticulture books have their origins when first-time authors-to-be ask the question: "How come there's no book that will tell me _____?" Right Plant, Right Place, Kent Whealy's work with Seed Savers Exchange, and Gardening By Mail all come to mind. Well, add Stephen Facciola to the list.

Facciola once worked in a commercial seed house; he wondered why no one had ever taken the shelf of reference books his job required and collected all that information into one volume. He then spent more than five years finding out why, as he compiled this book. It is a record achievement in many ways — 3,000 species and 7,000 food-plant cultivars are described, including access on where to buy each one. Doing that involved the biggest list of seed catalogs: 1,100 from North America, plus 250 from overseas. In one place there now exists basically the contents of all the commercial seed catalogs, plus sources for heirloom vegetables, herbs and spices, fruits, nuts and berries, edible flowers, wild

edibles, mushroom spawn, and even starter cultures for baking and brewing.

If every reference librarian orders just one, maybe Mr. Facciola will recoup his investment (this self-published book was created on borrowed capital, not grants or the academic dole). For anyone involved with food plants, it is an immense service, a book to own and use.

—Richard Nilsen

[Suggested by Greg Williams]

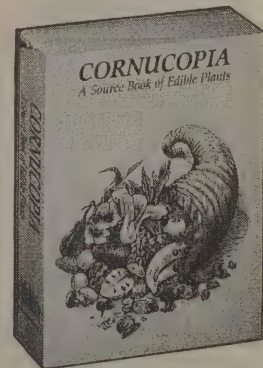
TABLE GRAPES

AMERICAN These are mostly slipskin grapes, characterized by pulp that readily slides out of the skin. They have soft flesh and a distinctive, "foxy" or musty flavor and aroma. Most have moderately vigorous vines that are trailing instead of upright, and are resistant to many insects and diseases. Generally more cold hardy than Vinifera and French hybrid grapes. Mostly *V. labrusca*. . . .

Green-Skinned/Seeded

Lake Emerald: (*V. simpsonii* x) Medium to large fruit; skin emerald green to light-golden, fairly tough; flesh soft, sweet, uniquely fragrant, agreeably flavored; juice aromatic, sweet, well-flavored, light-

colored; ripens during July at Leesburg, Florida. Primarily for home gardens and local markets in the Deep South. Vine high yielding; tolerant to Pierce's disease. BROOKS 1972; F19M, M31M, N33



Cornucopia

(A Source Book of Edible Plants)
Stephen Facciola, 1990; 677 pp.

\$35 (\$37.75 postpaid) from Kampong Publications, 1970 Sunrise Drive, Vista, CA 92084; 619/726-0990

THE OWL IS A GOOD SIGN

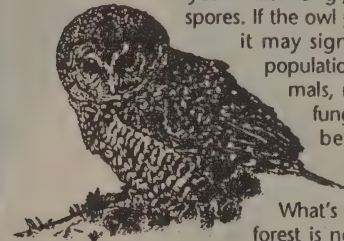
The northern spotted owl, which depends upon large tracts of ancient forest for its survival, is threatened with extinction.


And when the owl population dwindles, it means something's wrong with the forest. This is why the U.S. Forest Service selected the owl as an indicator of the forest's health. Just as miners used canaries to indicate whether there was enough good air in a mine shaft, we can use the spotted owl to read the health of the forest.

The owl builds its nest in dead trees and preys on squirrels and other small mammals that eat the fruits of mycorrhizal fungi, spreading their spores. If the owl population falters, it may signal a drop in the population of those mammals, meaning that the fungi's spores are not being dispersed to young trees that need them.

What's more, the ancient forest is now so badly fragmented by logging that half the young owls born each year are killed by predators when the fledglings leave the nest in search of homes of their own.

So when the issue of the spotted owl is raised, remember — it's not just the owl but the whole forest that's at risk.





The Sabbath of Women

by *Lara Owen*

I USED TO THINK that my period was a nuisance, a messy intrusion that increased laundry and caused a host of unpleasant symptoms including exhaustion and debilitating pain. Menstruation interfered with my sex life, with athletic activities, and with my energy level. It caused mood swings, irritability, and destructive, unstoppable bitchiness. It cost money — in pads and tampons to absorb the blood, in ruined clothes, in time away from work. It was a mean and sneaky saboteur that would always come at the most inconvenient time.

Despite this catechism of woe, when my period came there was always a part of me that was pleased. It meant I was healthy and fertile and that everything was working properly. There was a sense of pride about bleeding that I felt strongly with my first period; but in the

absence of any external support, the feeling of pleasure dwindled away.

A Jewish friend of mine told me that when she had her first period her mother slapped her face. Reeling with shock, she said, "Why did you do that?" Her mother replied, "I don't know, it was done to me by my mother. It's tradition."

To be hit on the face when first you become a woman — that is an interesting statement about how the state of womanliness is regarded. Perhaps it is intended to remove the feeling of pride that comes with the first blood.

Something else took away that feeling of pride for me, and I think it was the absence of ceremony. I felt that something truly amazing and magical was happening, and yet everyone around me treated it as a commonplace. I felt a sense of achievement, mingled with excitement, curiosity, and embarrassment; I also remember a vague awareness of a vast, unknown future. Intuitively I knew it was a massive landmark in my life — and yet no one said anything about it, other than to give me some sanitary pads. I think my mother was pleased — after all, it meant I was healthy and growing up normally — but I needed more than that. I needed a ceremony, a party, some joyful public recognition of this huge event in my development. But nothing happened. As the months went by I felt more and more the shame and embarrassment, and less and less the excitement and the pride that had glimmered for a moment with the first blood.

At home, my period was something to be kept secret from my father and brothers. If I had to mention it, I would use a hushed voice and, preferably, talk only to my mother on her own. Shortly after my periods had begun, we were going on a family trip, and I had to ask my father to stop the car so that I could go to the pharmacy. Of course, he wanted to know what it was that I needed to buy. I remember this awful feeling as I told him I had to buy some sanitary pads. It was a peculiar mixture of shame, pride and total embarrassment. He was very nice about it and,

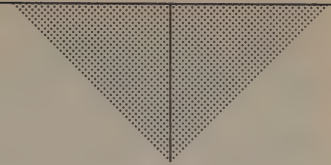
as far as I can remember, never said anything to make me feel that there was anything to be ashamed of — but somehow there was always this shame in the background of my thoughts, and it colored my whole relationship with the outside world.

At school, menstruation was not a subject to be mentioned other than in the biology class. All the information I received about menstruation was purely physical. You had a period because you weren't pregnant, and the menstrual flow was simply the discarded lining of the womb provided for a possible foetus. My friends and I discussed it and, in the absence of further information, decided that the female body was poorly evolved — all that blood and fuss for years and years when you needed only to do it once or twice in order to have children.

The picture society gave me through advertising was a confusing one. Tampon ads showed lithe girls in bikinis running gleefully towards the ocean and girls in tight white jeans jumping onto horses. This didn't mesh very easily with my experience of lethargy and cramps. And I knew that no one in her right mind would trust a tampon so much that she would go out for the day in white jeans. Pah! It must have been men writing those ads.

Yet somehow I felt that I *should* be like the girls in the Tampax ads, and that the way my body and mind behaved was somehow wrong — that a normal girl wouldn't feel any different when she had her period. There's nothing she'd like more than to scramble onto a horse and gallop off for an adventure while that nice little tampon allowed her to forget that she was menstruating at all. The embarrassing reality was that I couldn't even get a tampon inside me. Not only was I not fitting the stereotype, I was also failing with the equipment. I felt decidedly inadequate until I eventually succeeded. Then the process of imagining I wasn't having a period at all began in earnest.

I saw my periods as an inconvenience and that was all. If they were painful I took painkillers — Feminax,



A Jewish friend of mine told me that when she had her first period, her mother slapped her face. Reeling with shock, she said, "Why did you do that?" Her mother replied, "I don't know, it was done to me by my mother. It's tradition."

Lara Owen is currently working on a book about menstruation, and looking for a publisher. She lives in Portland, Oregon.


Owen is interested in talking with women who have experienced the empowering and sacred aspects of menstruation; she can be contacted c/o Whole Earth Review.

—Howard Rheingold

they were called, and they had a powerful mixture of ingredients designed to clobber every menstrual symptom, including caffeine to offset depression and lethargy. When I had exams I would get drugs from the doctor to stave off my period until a more suitable time, when the rage of hormones could assail my left brain without affecting my academic future. No one ever said anything about there being something useful in experiencing a powerful state of diffuse awareness once a month, and that was because no one knew.

When I was eighteen I went on the pill; I was initially pleased that my periods became predictable and also much lighter. It took a few years for it to fully sink in that the reason they were so light was that they weren't really periods at all. I noticed that I was getting increasingly emotional and upset during my so-called periods, so I decided to stop taking the pill. After a couple of months I felt like "myself" again, and I realised that despite the convenience of the pill, I had actually felt cheated because my periods were so light. This was when I began to realise that for me, menstruating was an important part of my life, a rhythm that I depended on for my psychic and physical health, and that I ignored or suppressed at my peril.

In other cultures, rather than being ignored, menstruation has been seen as a time that is special and sacred for women. The abundance of female-related symbols in excavations of ancient sites in Europe and the Near East strongly suggests that these cultures were matrifocal, and revered the Goddess and the processes of the female body. Ritual practices were connected to the monthly bleeding of women, and menstrual blood itself was highly valued as possessing magical power. The word ritual comes from *ritu*, Sanskrit for menses. In the days before the sacrifice of living beings, menstrual blood was offered in ceremonies. Menstrual blood was sacred to the Celts, the ancient Egyptians, the Maoris, the early Taoists, the Tantrists and the Gnostics.



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The Native Americans understood the different feelings that women have when they menstruate — and for them, these feelings were part of something very meaningful about the cycles of the woman's body. The women would go to a menstrual hut to pass the time of their bleeding. It was considered to be the time that a woman was at the height of her spiritual power, during which the most appropriate activity was to rest and gather wisdom.

The people of the Yurok tribe in Northern California, for instance, had a highly developed spiritual culture that depended upon the rhythm of the menstrual cycle for the spiritual practice not only of the women, but also of the men. The women would retreat *en masse* over the new moon, for a period of ten days. During the same time, the men of the tribe would focus on inner development, ceremony and meditation. While the adults were involved in gathering spiritual power, the children were cared for by the old people of the tribe. All the work that the adults had to do was concentrated into the other days of the month.

When white men came on the scene, "the world turned upside down." Attitudes toward menstruation changed and young girls were taught by the priests instead of by the elder women of the tribe. "Instead of learning that once a month their bodies would become sacred, they were taught that they would become filthy. Instead of going to the waiting house to meditate, pray, and celebrate . . . they were taught that they were sick" (*Daughters of Copper Woman*, Anne Cameron).

I first came across the ideas and practices of the Native Americans when I met a teacher of their traditions — Harley Swiftdeer Reagan. In the few days I spent at a workshop he was leading, I learned some crucial information about menstruation. In between tokes on his clove cigarette he casually mentioned that a menstruating woman has the potential to be more psychically and spiritually powerful than anyone, male or female, at any other time. That turned my conditioned pictures of reality upside down. I'd always experienced my period as a time of weakness and difficulty — what on earth was the man talking about?

At the time I had cervical dysplasia and the cramps I had always had during my period were becoming quite severe. I was looking for ways to heal myself. I asked Swiftdeer if he had any suggestions and he told me that my problems were caused by negative images of the female in my unconscious. He told me to dig a hole in my garden every now and then and speak all the negative thoughts I could think of about the state of being female into the hole, then cover it up so that the earth could transform the energy. When I went home I tried this technique out. I felt pretty silly, and I was glad that no one overlooked my tiny garden. I didn't know that I had so many bad feelings about being a woman lurking in my highly educated feminist mind until I did this exercise. It was painful, and it was very effective.

I began to look at my blood with a tinge of awe rather than with fear, disgust or indifference. By that time I no longer used tampons, having

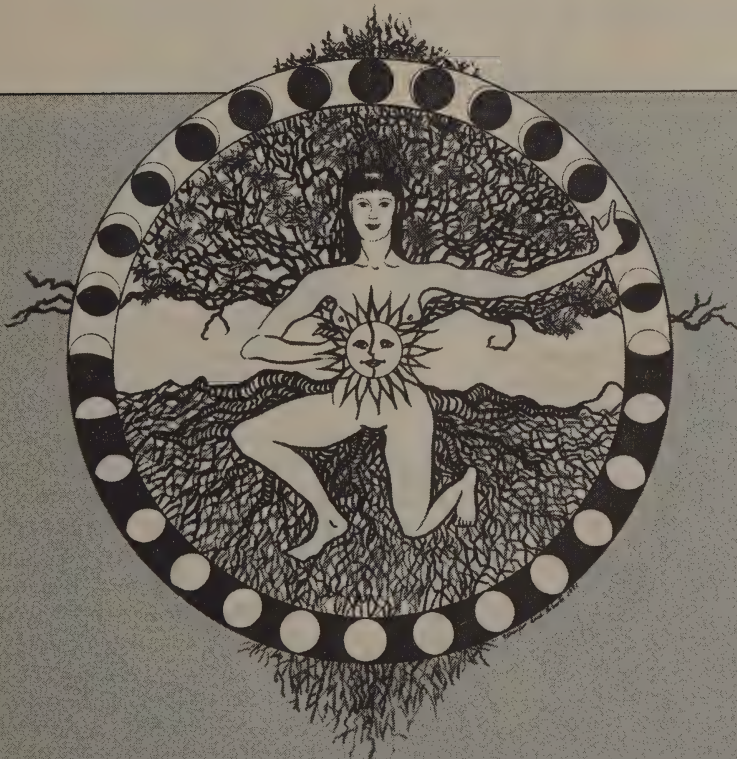
figured out that they might be irritating my cervix, and wondering if my initial difficulty with them in my teens hadn't in fact been a wise instinct of my body. So I got to look at my blood properly every month instead of just seeing it on a yucky old tampon. I saw that it was clear and red, and sometimes darker and clotted. If I really freed up my vision then I could see that it was full of life, full of magic, full of potential. I began to experience a frisson of joy when I thought about bleeding, about being a woman, that there was something, after all, so extraordinarily magical and mysterious about inhabiting a female body. The resentment about being female that I had

had in my teens and early twenties, the feelings that boys had a better deal, faded away and were replaced by a growing sense of wonder at the intricacies and depths and possibilities offered by the monthly cycle.

I began to take time to rest and meditate and just be with myself when I had my period. I found out that it was a time when I was particularly able to find insight, and that this insight was of a timeless nature. I felt I was tapping into some ancient and vast wellspring of female wisdom — simply by sitting still and listening when I was bleeding. Taking this time out when I was bleeding created a very different relationship

with my body. My health improved, and gradually the bad cramps I had had for most of my menstruating life eased up, and my period became a time of pleasure rather than pain.

I was beginning to really love myself. Of course, you can't make yourself do this, just as you can't make yourself love another person. It began to happen, very gradually, and many people came into my life who helped me see more clearly. But the big thing at the beginning was this knowledge that menstruation is a source of power. This priceless piece of information, coupled with a strong instinct I had about the power of the womb, transformed my deep and largely unconscious lack of self-respect.



tion about the future — usually the coming month, but sometimes reaching further than that.

This pattern continues, although usually it is less intense these days. Much of the deeply held psychological clutter appears to have been released — probably as much as my psyche wants to deal with at this stage in my life. Now I feel more up-to-date with myself, so there is less to let go of, usually just anything I have held onto from the preceding month. I still struggle with the empty time, and often start to do things, imagining that nothing is happening internally so I might as well get back to business in the outer world. Often this backfires and I find that I accomplish little and use up a lot of energy. It's hard to sit still when nothing is coming up to work on, it's hard for me to honor that emptiness even though I know it precedes creativity, inspiration and insight. It is all part of the process but it is an undramatic part, and I still have a tendency to ride roughshod over it.

I don't have a daily meditation practice. I prefer to adjust my inner and contemplative time to my impulses. Often when I have my period I go into a quiet, solitary and meditative space for three or four days, and then much less so the rest of the month. This feels like a very natural rhythm to me, and that's why I think of the bleeding time as the Sabbath of women.

A few years ago I had the opportunity to spend extended periods of time alone in a beautiful spot in the Sierra on the shore of Lake Tahoe, a vast blueness sacred to the Native Americans. I began to retreat fully when I had my period, being quiet, sitting on the earth in the sunshine with lizards and bluejays for company, with the wind and the moon and the sun, the ripples and the colors on the lake my guides and entertainers. I journeyed inside my psyche and would find myself suddenly in tears at some-

thing long forgotten, an event from my childhood or adolescence. My period became a time when I found I was particularly able to open up to psychological material and release emotions. I noticed that after the first few days of bleeding I would go very still and quiet for a day or so and seemingly nothing would be happening — an empty space after the weeping and remembering. Then as my period ended there would be several hours of clarity, in which I would be particularly creative and open to informa-

To think of menstruation as a source of power for women completely went against my conditioning, and yet I knew in my heart that it was true. I realized that in the dichotomy between what our culture teaches us, and my gut reaction of "Yes! Of course!" to this ancient wisdom, there was a lot of energy. When you find the places where a culture splits from a natural truth you have found a key — a way inside the diseases of the culture. I began to understand that the split between (on the one hand) the wisdom and power of bleeding that I was perceiving, and (on the other) modern society's attitudes to the womb, lay at the heart

of the subjugation and denial of female reality and experience.

For many women the root of their unhappiness lies in a painful relationship with the processes of being female. Women are trained to hide the fact that they are menstruating at all costs. Bloodstains on clothing are a hideous embarrassment. No one ever says I don't want to come to work or go to the party because I've got my period, not unless they are feeling ill with it, and then they usually say they have a headache or a digestive problem.

When the womb and menstruation are seen merely as uncomfortable biological necessity, women's self-

esteem is correspondingly low. We are our bodies — and we can't really, deep down in the bottom of our hearts, love ourselves if we don't wholeheartedly love our bodies. And you don't love your body if you catch yourself saying "Oh no, I've got my period."

In the nineteenth century, menstruation was viewed by physicians as one more sign of the inferiority and weakness of the female. However, there is often a glimmer of truth in any ideology, and the physicians of the Victorian era were not completely wrong when they emphasized the importance of menstruation in women's overall health, of the relationship between the

Bleeding Onto the Earth

The way of life of the Nootka tribe of the Pacific Northwest is beautifully described by Anne Cameron in *The Daughters of Copper Woman*. A woman of this tribe would go "to the waiting house to pass her sacred time in a sacred place, sitting on moss and giving her inner blood to the Earth Mother. Men were not allowed near the waiting house, it was too sacred for them to understand or approach."

When I was first introduced to the idea of bleeding onto the earth by a friend of mine I thought it sounded a little silly, a little pretentious. But I started doing it tentatively, and began to feel a flicker of connection to something very old. One of the problems I had was figuring out how to do it. Native American women used to sit on moss in the moon house. Where was I supposed to sit and bleed? Even if I went and found a nice piece of earth to sit on, I didn't want to stay there for the whole time. Then I started using cloth pads to absorb my blood and soaking them in water before I washed them. I realized that I could pour the soaking water onto the earth. So now that's what I do. The water is a beautiful red, and I pour it onto the ground around plants, and the act of doing this fills me with a feeling of connection, of rightness, of being at peace with something that is often neglected in modern

life. Simple acts of value, simple knowledge.

It's like chopping wood, rocking a baby, baking bread, drinking from a fast-flowing mountain stream. It's one of those acts of being a human being that is timeless, of eternal value, part of the steady round of life and death. The cells that die in my body, that are carried in the menstrual blood, are food for the earth. What dies gives birth. What dies feeds those who live and will live.

If I ignore my blood I get distanced from


this knowledge. I fear and dislike my blood — for without the knowledge that it too is food, that it too is a gift I bear, then I see it as purely loss. A waste of blood, a waste of time, a baby that wasn't conceived. Whether I desire pregnancy or not, my blood is always a gift. And it is a gift in a literal sense, as well as a psychic gift to myself. It is a gift from my body back to the earth: the mother that has fed and nurtured me every day of my life.



womb and the psyche; of the wisdom of rest during the period. We have tended to reject all of this because it reminds us of the time when the lives of women were more controlled by men, and because it smacks of old arguments that kept women tied to the home and powerless in the outside world. We have also, quite rightly, rejected the idea that the natural processes of being female are a sickness. But to say that something is not a sickness, and to ignore it altogether, are not the same thing. By ignoring menstruation, in reaction to the ideas of the Victorian era, perhaps we have lost touch with a lingering thread of awareness of its value in women's lives.

The changes that have taken place in the lives of women over the past thirty years may look like a revolution, but in many ways they have been an assimilation. Women seeking power in a male world have tended to do so by becoming pseudo-men. And, perhaps unwittingly, feminism has played a part in the suppression of menstruation. One of the biggest fears that I have come across in successful and ambitious women when I discuss ancient ideas about the spiritual power of menstruation, is that this will in some way affect their myth of being "just as good as a man, and sometimes better." Many women don't want to go deeper into menstruation; they are scared of what they will discover. It suits them better to suppress their feelings with tranquilizers, to spray with vaginal deodorants to disguise the smell of blood, to numb their pain with pain-killers, to absorb their blood with tampons so they never have to actually see it. It's easier to be a successful woman in a man's world if you hardly acknowledge that you menstruate at all.

The technology of suppression — tampons, vaginal deodorants, sophisticated pain-killing and mood-altering drugs — has acted together with the myth of the superwoman to create a predominant cultural attitude that a menstruating woman is no different from one who is not bleeding. The trouble with this is that it simply isn't true. Any woman remotely in touch with her body



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knows that when she is menstruating, and usually for a few days before, she feels different. And this is a fact of nature that ultimately cannot be denied.

One of the aspects of menstruation that I now love and appreciate is its predictable unpredictability. You never know exactly when it is going to come, and sometimes it completely surprises you. And not only is it inconsiderate of timetables and schedules, it is also messy. Hooray! We try to sanitize and order modern life to the degree that we run into danger of there being no life left in us. Periods save us from this doom — they are a wild and basic, raw, bloody and eternal aspect of the female — and no amount of "civilization" will change that. My period is a monthly occurrence in my life that I have in common with all women who have ever lived. Women living in caves twenty thousand years ago, priestesses in pyramids in

ancient Egypt, seers in temples in Sumer, they all bled with the moon. The first woman who made fire might well have had her period at the time. Now that's a thought. If menstruation is a highly creative time for women psychically and spiritually, who knows what gifts humankind has been brought by women during their menses.

The value we place on menstruation has a direct correlation with the value we place on ourselves as women. And this affects men too. We think of the sexes as being separate and in a way they are. But in another way we are all part of the same big human soup, and how women view themselves and are viewed affects men too. It might look on the face of it as if men have had the upper hand for the past few thousand years — but that is only true from a certain perspective. Both men and women have gained and suffered from the imbalances of patriarchal society. Men have also been separated from their bodies and from their feelings, and from the pleasure and healing made possible by relationships based on cooperation rather than hierarchy and dominance.

Imagine a world in which men and women worked together to develop the sense of inner peace that comes from sitting still for a couple of days once a month. In which men supported women to spend a few days in peaceful quiet. A world in which menstrual blood was once again a magical fluid with the power to nurture new life. A world in which menstruation was understood to be the Sabbath of women — a natural space within one moon's cycle for retreat, introversion, and inner work. From which women emerge like the newborn moon itself, renewed, the old skin shed. ■

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Reusable Cloth Menstrual Pads

BY LARA OWEN

Tampons are convenient but can be a health hazard. Disposable paper pads use up trees and add to the mountains of garbage we plough into the earth. All the arguments against disposable diapers hold true for menstrual pads.

The obvious alternative is to go back to using cloth. The idea has echoes of "rags" and pre-war poverty but in practice I've found that cloth menstrual pads work very well. I've been using them for a year now and I love them. They are made of soft, cosy, absorbent, 100-percent-cotton flannel that fits snugly against the body — much more comfortable than the paper disposable pads. They don't slide around inside your underwear and you don't need to use a belt or pins. I've not had a single accident. In fact I used to have more leakage and spillage with paper pads, and a friend of mine who bleeds very heavily at night has found that the flannel pads are far superior to throwaways.

Once used, I sling them in a bucket of cold water to soak (with a lid on it, so as not to offend other members of the household), use the water to feed my plants (you should have seen my bean crop this year), then put the whole lot in the washing machine on a hot wash when my period's over. Total labor involved: five minutes. My initial outlay was thirty dollars — and they are still going strong. How long they'll last is, as yet, unknown — I'd guess about as long as a flannel shirt lasts that gets worn and washed once a month. Could be a long time. No damage to the environment, and a wonderful feeling of autonomy at not having to rush to the pharmacy at the first sight of blood. No danger of exposure to carcinogens like dioxin, no danger of toxic-shock syndrome, or of contracting any of the nefarious infections caused by tampons and by the lack of circulation that results from the plastic backing of the paper pads. All in all, a much better deal.

RESOURCES:

Cycles Pads: Simple design — white flannel folded pad inside either a floral flannel or unbleached 100-percent-cotton muslin liner. The large pads are great for women with a heavy flow. Cheapest and work very well.

Kits: large (4 large pads and 1 large belt); regular (6 regular pads and 1 regular belt); junior (8 junior pads and 1 regular belt). Each kit \$20 postpaid from Sisterly Works, R.R. 3, Box 107, Port Lavaca, TX 77979; 512/893-5252.

Moonwit Pads: Cleverly designed pads that are the least bulky around but best for those with a light to medium flow, although I haven't tried their Goddess size. Terry and flannel; no velcro or belts.

New Moon starter kit (1 each regular and Goddess pad) \$8.50; **Half Moon kit** (4 regular pads, 2 Goddess pads) \$25.50; **Full Moon kit** (8 regular pads, 4 Goddess pads) \$51. Add \$2.75 per kit for postage and handling.

Newsletter (The Rag): \$6 (4 issues).

Moonwit, R.R.4 Lang's Road C-21, Gan- ges, BC V0S 1E0, Canada; 604/537-4683.

New Cycle Menstrual Pads: Attractive and well made, with flannel cover in white, red or floral. Sample pack contains one each of their three different sizes.

\$17.45 postpaid from Menstrual Health Foundation, P. O. Box 3248, Santa Rosa, CA 95402; 707/829-2744. ■



How to Make a Cloth Maxi-Pad

by Sue Smith-Heavenrich

Reprinted from *Mothering* magazine no. 58 (\$22/4 issues from P. O. Box 532, Mount Morris, IL 61054).

Well-washed 100 percent cotton is best: muslin for the pads, flannel for the liners (I recycle old night-gowns and flannel shirts). You will also need about a 30-inch strip of ½-inch-wide elastic and Velcro tabs, or a fastener.

The belt: Measure the elastic around your hips (or wherever you wish to wear your belt), and cut to fit. Cut out a strip of cloth about 60 inches long by 1½ inches wide. Then sew the cloth into a long tube, and thread the elastic inside.

Sew the belt into a circle and add Velcro tabs to attach the maxi-pads (illustration A), or sew a fastener onto one end of the belt and a loop onto the other (illustration B), and use with maxi-pads that have loops on their ends.



The Menstrual Health Foundation

This nonprofit organization is dedicated to providing education and resources about the positive and powerful aspects of menstruation. Its director is Tamara Slayton, and one day last December I drove to her home, which is also the headquarters for MHF activity. Her living room showed the evidence of her work — baskets overflowing with cloth menstrual pads, in different sizes and colors ranging from white to pink floral to bright red; bulletin boards covered with organizational data; books on menstruation and allied subjects. As we talked it became clear that Tamara is a woman with a mission, for which she has really done her homework. She first became aware of the deeper meaning of menstruation sixteen years ago, when she was working with Jeannine Parvati Baker on the book *Hygeia — A Woman's Herbal*. She went on to establish the MHF seven years ago, as it became increasingly clear to her that work in this area is a vitally important part of "what looks like a universal shift in the consciousness of the entire planet to reclaim the feminine — it is directly related to the environmental movement."

The MHF has three main focus areas:

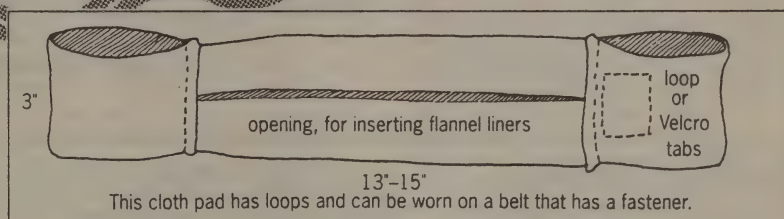
1. Education — providing lectures, classes, and regular support groups — teaching women and men to become aware of their conditioning about menstruation and how to heal the wounds this conditioning has created. Tamara comments, "I don't have to try and change anyone — this information (about the power of the menstrual cycle) lives in all of us, so I just help women see what is sitting on top of that."
2. Publishing educational material such as the workbook written by Tamara that accompanies the classes, entitled "Reclaiming the Menstrual Matrix," and a forthcoming book on diet called **Food for Females**.
3. Practical resources — the MHF currently manufactures and markets washable cloth menstrual pads called *New Cycle Pads*. Tamara makes the point that "in this country we spend \$14 billion a year on disposable menstrual products." Sales

of the reusable cloth pads have more than quadrupled in the last twelve months.

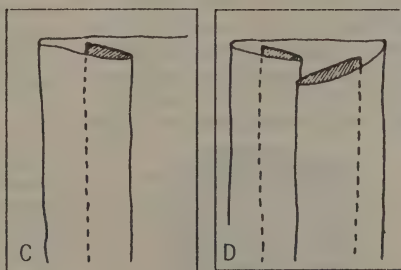
The MHF is developing a new catalog, **The Menstrual Wealth Catalog**, featuring a coming-of-age kit, as well as organic cotton pads and such extravagances as hand-painted silk pads. "I want to flip the whole metaphor," says Tamara, "so that a sense of beauty and appreciation is what is normal in our culture, instead of the shame and negativity, and white, "medical" products. This catalog will be so rich and so beautiful with imagery around the menstrual cycle that the reader will be inspired to reawaken to the wisdom of her own cycle."

—Lara Owen

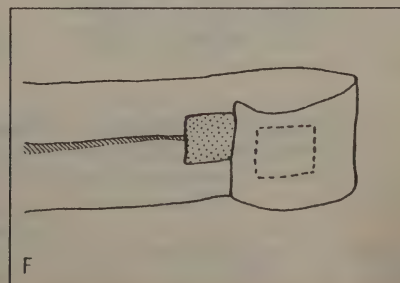
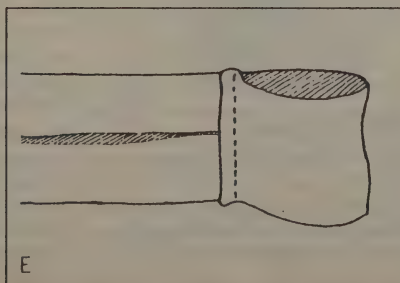
The Menstrual Health Foundation can be reached at P. O. Box 3248, Santa Rosa, CA 95402; 707/829-2744.



The pads: To make a cloth pad, cut out a piece of cotton measuring 9 or 10 inches wide by 18 inches long (or 20 inches long, if you plan to wear your belt high up on the hips). Holding the cloth lengthwise, fold over one edge about 1 inch; then fold again to near-center (illustration C).



Repeat with the other edge. The two smooth edges should overlap slightly (illustration D), and the finished pad should be about 3 inches wide. Fold the ends over to make loops large enough to fit your belt, and stitch in place (illustration E), or sew on Velcro tabs (illustration F).



The liners: To make a liner, cut out a piece of flannel, and hem or zigzag the edges so that the finished size measures 28 inches long by 8 inches wide. (Liners for "light days" can measure 14 inches by 8 inches.) Fold the liner in half and then in half again, so that it measures 7 inches by 8 inches. Now fold it in thirds, and stuff it into the opening in the cloth pad. ■

Blood Magic

Anthropologists are, like all of us, the products of their culture, and it's not surprising that Victorian anthropologists saw seclusion during menstruation as banishment. Their work set the tone for the focus on menstruation for most of the twentieth century. Postfeminist anthropologists have had different eyes with which to view the behavior of women, and a greater openness to the possibility that some cultures value that which is inherent to the female. The questions they ask are different, and so are the answers they get.

The cultures examined in *Blood Magic* reveal the gamut of attitudes toward menstruation: the intense and elaborate shame and pollution in an Anatolian



Blood Magic

Thomas Buckley and Alma Gottlieb, Editors. 1988; 323 pp.

\$12.95 (\$14.95 postpaid) from University of California Press/Attn.: Order Dept., 2120 Berkeley Way, Berkeley, CA 94720; 800/822-6657 (or Whole Earth Access)

Muslim village, the indifference of the Rungus of Borneo, the bizarre relationship between menstruation and pigs in Portugal, and the Yurok Indians of Northern California, who organized their whole society around the importance of menstruation as a time to seek spiritual wisdom.

—Lara Owen

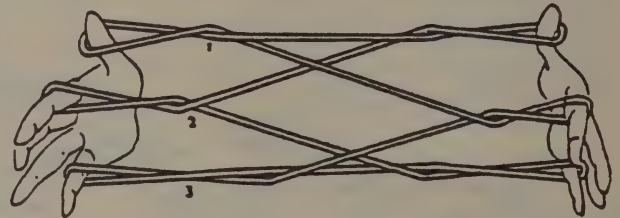
• São Bras is always portrayed in local paintings and shrine images with red hands. The women of Vila Branca claim that the saint got his red hands before achieving sainthood by committing a certain indiscretion with a young menstruating woman. Apparently, in the heat of sexual passion the young man began to explore beneath the young woman's skirts. Little did he know that she was menstruating, for when he pulled out his hands they were covered with blood. In order to "teach him a lesson," God permanently stained Sao Bras' hands red as a reminder to him and to others of his lack of discretion.

• The *alknarintja* women of Aranda

... cut their breasts.

On their breasts they make scars.

String figure from Yirkalla, north-east Arnhem Land. "Menstrual blood of three women."



They slap their thighs . . .

They are menstruating.

Their flanks are wet with blood.

They talk to each other.

They make a bull-roarer . . .

They are menstruating.

The blood is perpetually flowing.

[Aboriginal Australian]

• A man called Purra was looking for a wife. One day he was crossing a creek when he noticed that its water was red. "Look," he said, "a girl must be around here. She is at the time of the passing of blood and went into the water. That is why the creek is red." He followed the water right up to its source. There he found a girl. Her lower half was in the water, but the rest of her was lying on the bank. "She is Tira's [the rainbow snake's] daughter," Purra said to himself. He took the girl, "but he knew that her father, the serpent, would be after him." He tried to run away but the Serpent followed. Purra kept lighting fires to keep the Serpent away, but one day "the big rain came"; it extinguished Purra's fire-stick and caused a flood into which Purra's wife disappeared.

The Wise Wound

When Penelope Shuttle and Peter Redgrove decided to research menstruation in the 1960s and early 1970s, they dove into a diverse assortment of primary sources, including folklore, medical facts, myths, and religious prohibitions, from which they produced an imaginative and pioneer study, *The Wise Wound*, first published in 1978.

Their understanding of symbols, dreams, language, and feminine energy leads us into the depth of what we've repressed — that the creative rhythm guiding all cultures originated in the processes of women's menstrual cycle, "learned by women and imparted to their male partners, who have taken it for their own, and forgotten their teachers." In other words, "the physical experience made possible the mental one."

By abstracting the processes from their source, we have denied ourselves unknown riches. It is exciting to imagine, as research continues in this vein, where we are heading.

—Shana Penn

• Dewan began his work by shining light on marine worms in the laboratory in an at-

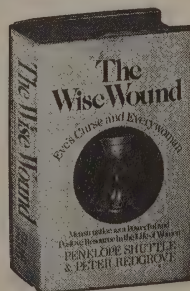
tempt artificially to synchronise their sexual cycles with the moon-cycle, and he found that they would so synchronise. Then in 1965 he asked a young woman with a history of irregular menstrual cycles to sleep with the light on during the fourteenth, fifteenth, and sixteenth days of her cycle: the time when ovulation would be expected, in the hope that indirect lighting like the moon's, reflected from walls and ceilings, would promote ovulation. Indeed,

the cycle shortened to twenty-nine days.

• A friend of ours, who is a Greek Cypriot, took his mother on her first visit to Britain to see *The Exorcist*. He hoped to shock her, but she was completely unmoved. She said that she couldn't understand what all the fuss was about, since little girls growing up in Cyprus always behaved like that!

• Each person starts his or her life under a mother's rule, expressed by body-language, since it is too early for spoken language, and that the mother's body-language reflects the changes of her menstrual cycle. It has been shown that the apparently random gestures of a young baby's limbs are such a language expressing responses to his mother and his environment generally. It is certain too that the neurological structure of every person's body reflects a division between the intellectual powers of the new brain or neocortical structures, and the older, limbic brain.

It is of course this limbic region that we suppress with our tranquilisers, whether we administer them to counteract premenstrual tension or for any other reason. And it is this region of older powers that is visited each month by Everywoman in the so-called "regressions" of her period.



The Wise Wound

Penelope Shuttle and Peter Redgrove, 1978; 335 pp.

\$12.95 (\$15.45 postpaid) from Bantam Books/Direct Sales, 414 E. Golf Road, Des Plaines, IL 60016; 800/223-6834 (or Whole Earth Access)

Wonderful Life

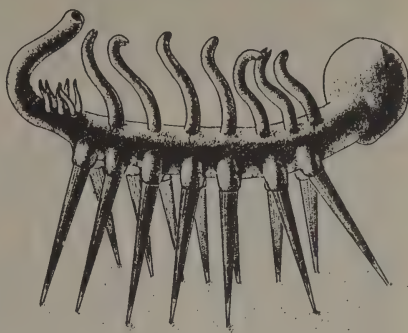
What's weirder than a dinosaur, more than twice as ancient, and radically more significant to our understanding of the evolution of life on Earth? There are dozens of answers to this question, each of them one of the shockingly alien creatures from the fossil bed in British Columbia known as the Burgess Shale.

By all the laws of good fortune, these delicate and in some cases soft-bodied invertebrates should never have become fossilized, nor should they have remained preserved for 530 million years to be finally met by the gaze of wondering humans. The story of their discovery and interpretation is the story of nothing less than a revolution in evolutionary biology.

Many of the Burgess Shale creatures are so different from anything known today that they have been placed in new phyla. (Contrast this with the public's favorite prehistoric creatures, the dinosaurs, which all belong to the same phylum as we humans do, the Chordata.) That's about as alien as a creature can get without being from another planet, and therein lies a puzzle of grand proportions: Why, back at the time of the dawn of multicellular life, would there be more radical diversity in body plans than there is now, after millions of years of additional evolution? In *Wonderful Life*, the great popularizer of evolutionary biology Stephen Jay Gould attempts to answer this question; in the process he weaves the story of the discovery and interpretation of the Burgess Shale fossils, and teaches a lesson in the history of science about why it took biologists over sixty years to understand the drastic implications of these organisms for the history of life.

—Ted Schultz

I know no greater challenge to the iconography of the cone [of increasing diversity] — and hence no more important case for a fundamentally revised view of life — than the radical reconstructions of Burgess anatomy presented by Whittington and his colleagues. They have literally followed our most venerable metaphor for revolution: they have turned the traditional interpretation on its head. By recognizing so many unique anatomies in the Burgess, and by showing that familiar groups were then experimenting with designs so far beyond the modern range, they have inverted the cone. The sweep of anatomical variety reached a maximum right after the initial diversification of multicellular animals. The later history of life proceeded by elimination, not expansion. . . . The probable increase in number of species through time merely underscores the puzzle and paradox. Compared with the Burgess seas, today's oceans contain many more species based upon many fewer anatomical plans.



Hallucigenia, supported by its seven pairs of struts, stands on the sea floor.

Hallucigenia. We need symbols to represent a diversity that we cannot fully carry in our heads. If one creature must be selected to bear the message of the Burgess Shale — the stunning disparity and uniqueness of anatomy generated so early and so quickly in the history of modern multicellular life — the overwhelming choice

Wonderful Life

(The Burgess Shale and the Nature of History)
Stephen Jay Gould, 1990; 347 pp.

\$10.95 (\$12.20 postpaid) from W. W. Norton & Co./Order Dept., 800 Keystone Industrial Park, Scranton, PA 18512; 800/233-4830 (or Whole Earth Access)

among aficionados would surely be *Hallucigenia*. . . . This genus would win the vote for two reasons. First, to borrow today's vernacular, it is really weird. Second, since names matter so much when we are talking about symbols, Simon chose a most unusual and truly lovely designation for his strangest discovery.

A Synopsis and Classification of Living Organisms

This encyclopedic reference represents the first attempt ever to catalog all life on planet Earth, down to the family level of taxonomic classification. Hundreds of experts worked for several years to produce over 8,200 descriptions of the world's viruses, bacteria, plants (including the algae), and animals (including the protista). Valuable references are listed at the end of each description. Much of the information in these volumes is otherwise available only in obscure journals, and some of it appears here for the first time. As you might expect in such a monumental undertaking, the work is not perfect — some groups of organisms have been overlooked, and some descriptions lack illustrations — but overall this is a fabulous reference tool. The steep price puts it out of reach of most individuals, but every library should own this massive testament to life's awesome diversity.

—Ted Schultz

Eucharitidae. Ant chalcids. These bizarre wasps, mostly 3-10 mm long, are often metallic-colored, black, green and yellow, red and green, and so on, and are close to Perilampidae and Pteromalidae. The gaster, often somewhat laterally compressed, is attached to the trunk low down by a slender petiole; the following (true third abdominal) tergum is large and covers most of the gaster. The trunk is high; the scutellum is often produced as a pair of massive spines. The mandibles are long, falcate, or straight and porrect. The anten-

nae are sometimes flabellate in males. The pronotum is usually reduced dorsally to accommodate the mobile head. Axillae are usually fused to form a transverse sclerite separating the scutum from the scutellum. Adults are frequently found flying above ant nests or around foliage where ants are foraging; all are believed to be parasitoids on various genera of ants.

The first-instar larva is, as far as is known, a planidium, hatching from eggs deposited on or in foliage, buds, or fruits (such as bananas), and attaching to foraging worker ants to be transported to the nest. There the parasite larva transfers to an ant larva and feeds upon it externally or internally as a prepupa, pupa, or pharate adult, eventually killing it or producing an emaciated pharate adult ant (phthysergate). Host specificity at genus level seems to be the rule.

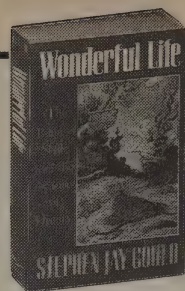
The family (= Eucharidae) is widely distributed in tropical and temperate parts of the world; about 330 species are known in 55 genera.

References: C. P. Clausen, *Entomophagous Insects*, McGraw-Hill, New York, pp. 221-230, 1940.

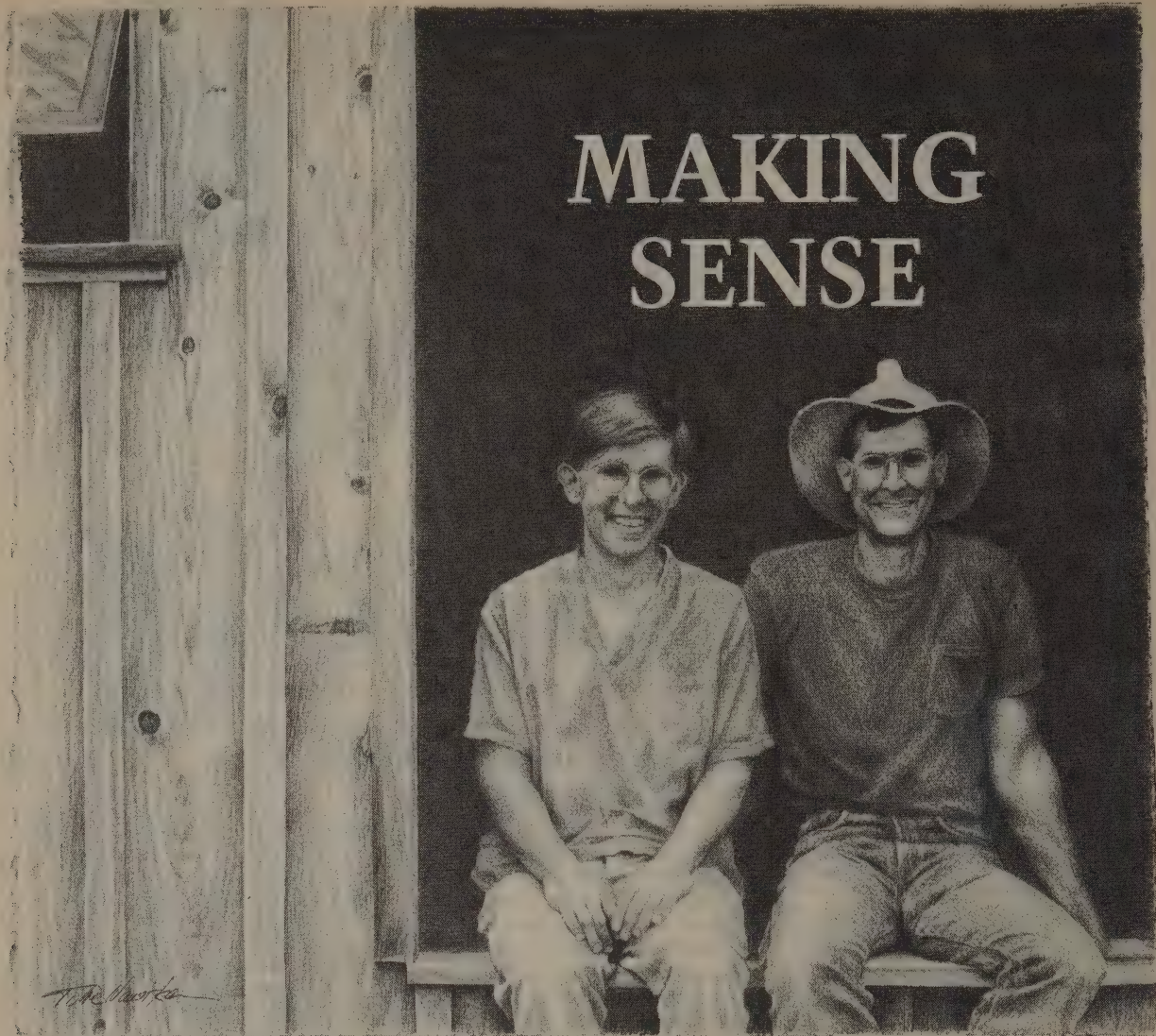
A Synopsis and Classification of Living Organisms

Sybil P. Parker, Editor-in-Chief. 1982; 1,184 pp. (Vol. 1); 1,232 pp. (Vol. 2).

\$295 (\$310.63 postpaid) from McGraw-Hill Publishing Co., Blue Ridge Summit, PA 17214; 800/262-4729



MAKING SENSE



**"The 'Proper
Use of Land'
poses, not a
technical nor
an economic,
but primarily
a metaphysi-
cal question."**

—E. F. Schumacher

I LEFT NEW YORK sooner than I had expected. Only six years earlier, I'd felt I had truly arrived, and that I would never leave. For years there was nothing I did not like about the place. I loved the crowds, the smells, the food, the subways, even the sixth-floor walk-up apartment. There was no reason to suspect that I would ever feel compelled to return to rural life, not after I had so purposefully given up life on the farm to search for Life in the City. The City was a place of endless possibility where I could live a life of study and reflection, a life tempered by the arts and seasoned with pleasures of foods, society, and sophistication unknown to the rural drudge. It was the place I had long lived in my imagination, and as I walked from top to bottom and side to side, going everywhere, seeing everything, it was no less gritty and glorious underfoot than it had been in my fondest daydreams. But this all passed. Despite my studied urbanity, my boundless enthusiasm, a vague feeling of discon-

tent crept into a dark corner of my consciousness and refused to be appeased by the city lights. Before I knew it, it had grown into a compelling certainty that life in the city had ceased to make sense. The sophistication began to seem mere sophistry. The subways grew cramped and oppressive. The landlady became malevolent. The convenience of Chinese take-out began to seem unnecessary. Clearly the time had come to leave.

I could think of no good reason why life in the country should make any more sense than life in the city, and if the experiences of my early life meant anything I was sure it would not. Nevertheless, I decided that going back to the country was the thing to do. The change was not easy to figure out. It was not disillusionment — everything I thought to find in the city was indeed there, in one way or another. There were bookstores, cafes, people. I *liked* it there. I fit in. But somehow, in spite of all this, I became convinced that living in the city was not what I was *supposed* to be doing. To know what one is supposed to do is a tricky business, if only because there are so many so willing to tell you exactly what you are supposed to do. It is also easy to get it wrong — my guess is that most of us do, most of the time. Perhaps this is why I compromised. My partner and I quit our Big City jobs, packed everything worth keeping into a rented truck with a front end that shimmied like an Atlantic Avenue belly dancer and,

with a new job waiting for me when we got there, moved upstate to Albany. (Despite what people downstate think, Albany is not the country, but it is closer to it than New York City.)

We did not have a plan — we did not know enough to have a plan. Our intention was to find a place where we could eventually, if not immediately, live a life that “made more sense” than the one we had lived in the city. We did not have a clear idea of what kind of life this was, but our talk about where to go and what to do gradually came around to a small farm where we would work at growing vegetables in whatever time was left after working “real” jobs to pay for the place. Once done, the farm would be *it*, the place where we worked hard all day and slept soundly at night. This was as close to a plan as we could get, but as we were both aware from trying to articulate it to friends in the city, it was not a plan at all. It was talk — ideas about the thing, but not the thing itself — and it could not explain why we ended up in Albany. “The Plan,” the only one there ever was, was really no more than a pattern that emerged with hindsight, little more than a place to hang events for which we could make no other account.

Events have continued, by and large, to precede planning. We bought a small pickup and began to look around the countryside. We started east of the Hudson River; later we went north, then back south and crossed the Hudson again, then headed west. We crisscrossed the twenty-, thirty-, forty-, and finally the fifty-mile circles scribed around Albany on our map. Without planning to, we began talking to realtors.

“But what do you want to *do* with a farm?” It was not intended to be a metaphysical question — as a realtor her concern was more likely economic or aesthetic: did we want to develop it or to admire its views? I told her we wanted to *farm* it. While it was clearly unusual in her experience to think of a farm as a tract of land to be cultivated, she quickly caught on and uncovered several listings for “working farms.” These described the number of silos, barns and other buildings, the house if there was one, the number of acres of

Too often, arguments about technology and right livelihood polarize into pro-technology and anti-technology factions that rail and debate and neglect the important question of how to make good choices. John Townsend, in this essay that would have pleased Emerson or Thoreau, talks about his choice to abandon Manhattan and move to a farm. “Going back to the land,” he discovered, is an entirely different kind of enterprise in the 1990s than it was in the 1960s, when the first Whole Earth Catalog provided “access to tools” for rural communards and urban dreamers.

*Townsend wrote “Looking for the Simple Life” in WER #56.
—Howard Rheingold*

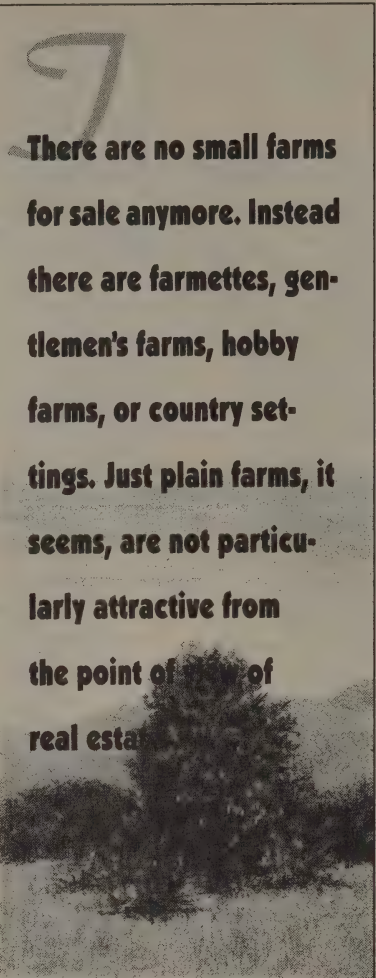
BY
JOHN
TOWNSEND

ILLUSTRATIONS BY
JULIE
WAWIRKA

cornfield or hay land, and whether any equipment or livestock was included. Although these were far larger than what we had told her we were interested in, at least her idea of a farm had shifted from land with development or aesthetic potential to land with the capacity for agricultural productivity. But the difference was not as significant as it first appeared, and on closer examination our realtor's new idea was no closer to what we wanted to do with a farm than her earlier one. Our concerns, as it turned out, were indeed metaphysical.

There are no small farms for sale anymore. Instead, there are farmettes, gentlemen's farms, hobby farms, or country settings with open fields and farm buildings. Less poetically, there are also approved building sites, surveyed lots, acreage (approved for subdivision), or parcels. Many of these have been farms in the past, but according to realtors the most distinctive thing about them now is that they come equipped with views. Some have town road frontage, access to electricity and water, good school districts and low taxes, but the views count even more when it comes to marketing and price. Views, we discovered — panoramic views for those who can afford them — have become the signature of the "country lifestyle," which has apparently replaced the life-without-style people used to have on small farms. Just plain farms, it seems, are not particularly attractive from the point of view of real estate. Their appeal is too limited, their possibilities are too restricted, and their prices are too low. The "needs of the marketplace" demand something more, and that, we learned, is what the real estate business is about: it converts real farms into "more marketable properties."

For example, one running-to-brush hillside farm we found had been subdivided into narrow slices of land, each one named on the realtor's map: Grazing Fields, Pine Ridge, Tall Timbers, Shady Grove, Horse Country, Deer Path and, inevitably, Mountain View. A fresh load of crushed stone had been dumped in the



7
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shallow ditch along the road, one parcel had a nice new footbridge, and they all had a narrow path cut through the woods, "for easy access." The paths meandered around the property occasionally expanding at some opportune spot, no doubt to encourage prospective buyers to linger, admire the views, and appreciate more fully the property's "potential for development."

Just plain farms have a hard time competing with this kind of "potential." New York, for example, lost 1.1 million acres of farmland to development between 1978 and 1986. To counter this trend, Massachusetts' Bureau of Land Use has an office whose role is to protect farmland by paying farmers the difference between the value of their land as farmland and its value as property for development. In this way over 20,000 acres are said to have been protected since the program began in the early seventies. "Land-use experts" at a recent conference in New York urged widespread adoption of similar programs — called "pur-

chase of development rights" programs, or PDRs — and cited several successful models, including Massachusetts. But their enthusiasm failed to take note of one seemingly inexorable law of real estate: that is, the price will go up. When it does, appropriations for the PDRs will soon prove inadequate to match the prices offered by developers. The *New York Times* recently carried a short article in the Sunday real-estate section about a farmer who tried to put 320 acres under Massachusetts' PDR program. The state offered first \$168,000 and later \$268,000. A developer offered the same farmer \$500,000 for 80 acres. Such are the needs of the marketplace.

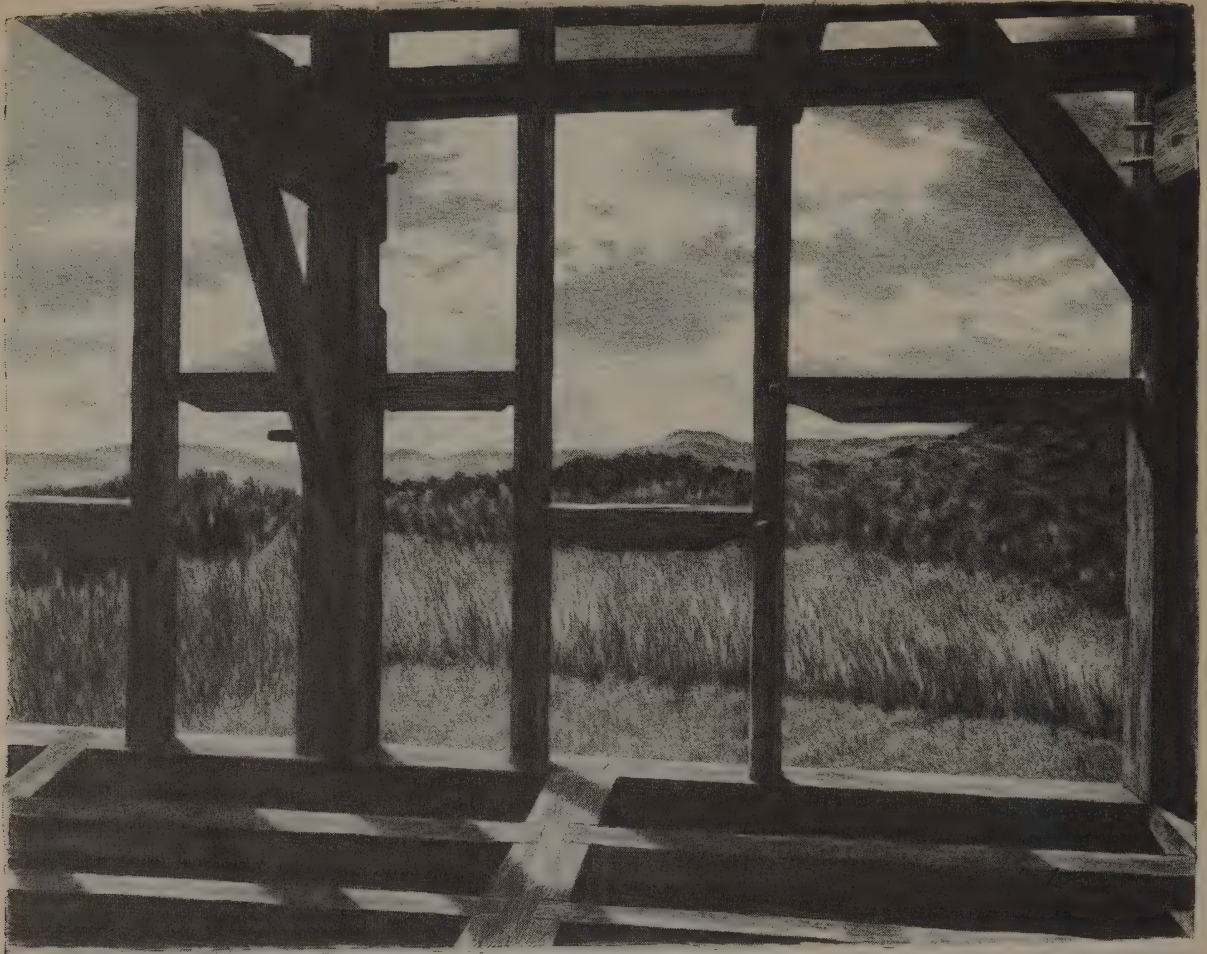
But exactly which needs are being addressed is not clear. The truth would seem to be that need has no more to do with the economic role of real estate than it has to do with the rest of our economy. Consumption *beyond* need is what appears to drive the economy, not response to needs. Consider: if for a moment we all consumed only what we needed, rather than what advertising has convinced us that

we need, or what we assume by force of habit that we must need, the economy would collapse. It cannot sustain unless it grows, and it cannot grow unless it perpetually consumes more than it needs. Yesterday's level of consumption is not adequate because it is not more, and growth, which in this sense bears no relation to anything that grows in nature, means more. So it is with real estate: it has no more to do with need than views have to do with farming. So, too, it is with farming. When land-use experts speak of New York's "\$3 billion agricultural industry," they are not speaking about New York's ability to meet its own or anyone else's agricultural needs. They are speaking about the "industry's" ability to produce hard currency by means of agriculture. To sell a failing farm for its views thus makes perfect economic sense when its value as real estate exceeds its potential to produce capital by agricultural means.

What is not so clear from a strictly economic analysis, however, is that by applying an industrial model of productivity to agriculture, agribusiness has tended to use farmland as a consumable commodity, a resource to be mined for its economic potential. This is borne out by statistics that show a more or less steady increase in yields over the last four decades, but fail to indicate that (according to USDA estimates) there is now a net loss of five bushels of topsoil for every bushel of corn produced in the United States. Nor do the production and revenue statistics make it clear that the energy used to achieve these yields has increased almost sevenfold since 1950, that fertilizer use has increased more than eightfold, while yields have



Consumption beyond need is what appears to drive the economy, not response to need. It cannot sustain unless it grows, and cannot grow unless it perpetually consumes more than it needs.



merely doubled. What has been called productivity, then, is quite clearly consumption — consumption of once-abundant, seemingly cheap, and now diminishing resources.

This is not what I meant when I said that our intention was to “farm” a farm — not at all. This is much more what Thoreau had in mind when he said, “The farmer is endeavoring to solve the problem of a livelihood by a formula more complicated than the problem itself.”

“Well,” I can almost hear our realtor asking, “if you don’t care about the view, if you don’t want to develop it, and you don’t want to ‘farm’ it, what do you want to do with a farm?”

According to the Oxford English Dictionary, “farm” is a word with no certain etymology. The earliest sense of the verb form “to farm” is to rent, lease, or otherwise make payment for use of, or right to, something — frequently but not exclusively land. Thus in *The Legend of Good Women* Chaucer uses “farmer” (“fermour”) to mean one who pays another for the right to collect taxes — a truly reprehensible occupation. Later, Shakespeare has Richard

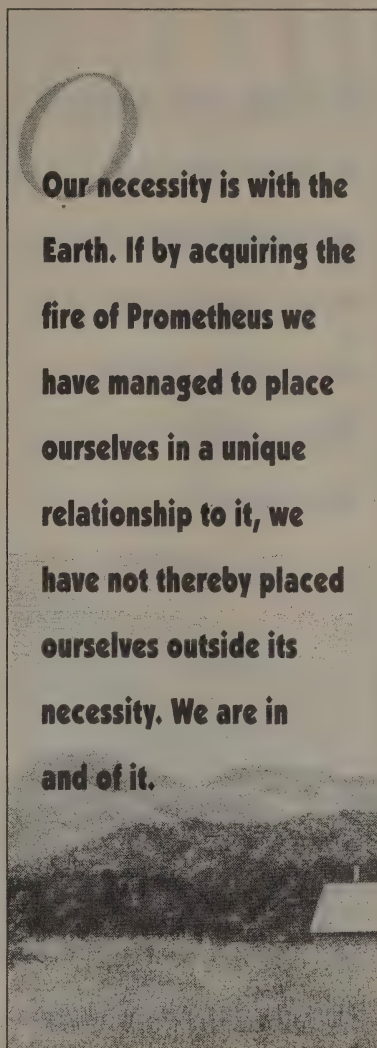
II speak of farming, i.e. leasing out, his realm, “the revenue whereof shall furnish for our affairs in hand,” in this case war. It was not until the early 19th Century that “to farm” commonly meant “to cultivate.” This makes it more or less synonymous with our understanding of another Old English word, “till.” However, in its earliest usage, “till” was not a synonym for “cultivate.” It meant to strive, exert oneself, to labor after, to get by effort, and by bestowing attention on.

There is something of this sense left in the word when we are told in Genesis that neither plant nor herb grew on the Earth immediately after its creation, “for the Lord God had not caused it to rain upon the earth, and there was not a man to till the ground” (Gen. 2:5). It is also the sense implied when we are told later that the newly created man was expelled from the Garden of Eden “to till the ground from whence he was taken” (Gen. 3:27). That the activity required to complete the creation is the same one man is condemned to perform “by the sweat of his brow” after the Fall strikes us as odd. But the irony is by no means unique to the biblical account of creation and it suggests, in Genesis and

elsewhere, that there is some fundamental ambiguity in our relationship to agriculture.

There are numerous examples of this in ancient mythologies. In Plato's account of the story of Prometheus, for example (*Statesman* 272a, and *Protagoras* 322a), we are told that under the government of Kronos "all men rose up anew into life out of the earth . . . they had fruits without stint from trees and bushes; they needed no cultivation but sprang up of themselves out of the ground without man's toil." Under the government of Zeus, however, things changed. Prometheus and Epimetheus, two of the Titans, were charged with allotting suitable powers to all creatures, but Epimetheus gave away everything before he got to man. "Prometheus, therefore, being at a loss to provide any means of salvation for man, stole from Hephaestus and Athena the gift of skill in the arts, together with fire — for without fire it was impossible for anyone to use this skill — and bestowed it on man." In revenge, Zeus dispatched Pandora with her box full of evils to counter the illicit gift. As a result of all this mankind acquired the *means* of life, but he acquired as well the pain, suffering, labor, and death he had previously lacked. Although he had learned how to warm himself, cook, provide himself with shelter, he had constantly to watch over the fire that supported him lest it go out or consume him. Although he now knew the art of making tools (as well as coining money), the Earth required all his ingenuity and labor to bring forth an uncertain harvest.

Anthropologically the story corresponds to the changes in technology and economics, collectively known as the "neolithic revolution," that are responsible for the gradual shift of human activity from hunting and gathering to cultivation. Mythologically the story reflects the tension that has subsequently developed between mankind's *need* to provide for itself and the *means* it has acquired for doing so. We see this, as Mircea Eliade points out, in



Our necessity is with the Earth. If by acquiring the fire of Prometheus we have managed to place ourselves in a unique relationship to it, we have not thereby placed ourselves outside its necessity. We are in and of it.

the fear among so-called "primitive" man that the natural forces he observed in the world might one day wear out (*Patterns in Comparative Religion*, p. 346). Although the anxiety was present to some extent during the seasonal death of vegetation, it became acute when the wearing out of the Earth seemed to be the result of some action of man — as when he farmed too long in the same place, when the rains washed his hillside furrows into the river, when the wind blew the topsoil away from his newly cleared land.

The possibility of the Earth wearing out, and the likelihood of our complicity in the process, makes it clear that the means we choose for meeting our needs is not a choice without consequence. It is, instead, a choice that commits us to a particular way of being in the world.

"Since Adam," writes W. H. Auden, "being free to choose, / Chose to imagine he was free to choose his own necessity, / Lost in his freedom, Man pursues /

The shadows of his images" ("For the Time Being"). To choose to imagine that we are free to choose our own necessity is to put ourselves at odds with the natural forces behind the anxiety of primitive man. While one of the undeniable benefits of our improved means — our technology — has been to free us to some extent from this anxiety, if all we have learned from the gift of Prometheus is to discern, measure, and exploit the reliability and fecundity of the Earth, and if we have subsequently lost our fear of its wearing out, then we have surely forgotten the ambivalence with which our ancestors received the gift in the first place.

There is a sense of the world that we still hold in common with primitive man, one that lies far beneath the technical and intellectual sophistication that defines our civilizations. It is a sense whose roots reach down from the evolutionary place occupied by our species, down to the muck of creation. To choose to imagine that we are free to choose our own necessity is to abandon this common psycho-

logical and biological understanding and to attempt to deny that, like all life, we are rooted, grounded in the Earth. Our necessity is *with* the Earth. If by acquiring the fire of Prometheus we have managed to place ourselves in a unique relationship to it, we have not thereby placed ourselves outside its necessity. We are in it and of it. To act as if we have chosen some other necessity — to act as if there *is* some other — is to place ourselves in opposition to the elemental forces that have shaped us, given us life and, ironically, given us the freedom to choose. To choose to imagine that we are free to choose our own necessity is to abandon our "common sense" view of the world.

We live in between the necessity that binds us to the Earth — a necessity at once biological and spiritual — and the freedom that allows us, at its extreme edge, the illusion of choosing a more palatable necessity. Today it seems that we exercise our freedom most assiduously in our choice of means, in our use of the gift of Prometheus. But as the way we live becomes more and more dependent on means that are further and further removed from our daily routine, and as our attention to necessity is overwhelmed by secondary concerns, concerns once called *luxuria*, we somehow forget the responsibility that comes with our choice. Having accepted the gift of Prometheus, it now appears that we have decided that we will not be held responsible for its burning, no matter how large a fire we build. Having accepted the fire, we have now declared our right to it, and to whatever use of it will serve our chosen "necessity." This we do whether we farm in a way calculated to reap profits by the destruction of farmland, or whether we build nuclear power plants to fuel our progress, seemingly oblivious to the wastes they produce — wastes that can be neither destroyed nor contained, but will endure further into the future than the history of our species reaches into the past. There is no sense of the world in such actions. Nor, in our refusal to acknowledge the responsibility that comes with our choices, is there any sense of place in it.

The point is not that we should abandon our technology and "go back to the Pleistocene." Indeed,

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to technological in-
nocence than we can
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tiated consciousness.
The only thing we can
do is choose.**



we cannot. We cannot return the fire to Prometheus; Pandora's dowry cannot be gathered back into her box. We are *what* we are, socially and technologically, because we are *who* we are, biologically and spiritually. We can no more return to technological innocence than we can return to undifferentiated consciousness. The only thing we can do is choose. We are *where* we are in our relation to society and technology, in our relation to nature and spirit, because of the choices we make. "But choice here," according to Arnold Pacey, "is not the simple weighing of known options — it involves, rather, different ways of approaching the unknown. It is a decision between different attitudes of mind" (*The Culture of Technology*, 28-29). Our choice of technologies commits us to a particular way of being in the world; by choosing we become accountable; having chosen there is no "back to the Pleistocene,"

there is only responsible action. It is in failing to act responsibly that we have lost our way in the world, that man pursues the shadows of his images, that our lives have ceased to make sense.

What is clear from all this is that living a life that makes sense is not a question of *where* to live, but a question of *how* to live. It is, as Schumacher suggests, a metaphysical question, one that involves our fundamental convictions about our way of being in the world. It is, finally, a question of right livelihood.

I have thought a lot about what it means to buy a farm. If moving back to the country is to be anything more than the exercise of economic and social privilege, if it is to be more than a change of lifestyle, then it must be a move that carries with it an obligation to right livelihood. A country lifestyle admits no such obligation — it is obliged only to pay the mortgage. ("Mortgage" is from Old French, meaning "dead pledge.") To buy a farm without attending to the question of livelihood is nothing but consumption, and it is likely to prove no more productive spiritually than economically. What good would it do to go back to the country and live a life that was a spiritual liability?

Right livelihood means living in a way that makes sense. It means choosing a way of being in the world

that not only recognizes, but attends to its necessity at least as much as it attends to its freedom. "Possibility and necessity are equally essential to becoming," says Kierkegaard, "and the self has the task of becoming itself in freedom. . . . But if possibility outruns necessity so that the self runs away from itself in possibility, it has no necessity to which it is to return" (*The Sickness Unto Death*, pp. 35-36). Moving to the country and living on a farm must be, if it is the right thing to do, a move to become a whole self, a move to find the point in between necessity and freedom at which the possible becomes the actual. If it is not, then it is the wrong thing to do, and the spiritual liability will far outweigh the fiscal one. Both will be dead pledges. Aristotle says that "the necessary, in the primary and strict sense, is the simple" (*Metaphysics*, 1015b 12). If my life in the country is to make more sense than did my life in the city it will be because it is more necessary, more simple than the one I had in the city, where everything seemed possible, and the possible never seemed to become actual because it so often lacked the necessary.

So, we bought a farm. A small one — actually a "parcel" of what had been a farm before it passed from the farmer through two or three real-estate transactions and on to us. We collected stones from the hedgerows and built a foundation, ordered timbers from a local sawmill, bought enough old tools to get by, and put up our first building. When we save enough money from those "real" jobs we still maintain, we'll build a house. Small, simple, efficient, inexpensive, it will lack most of the amenities a realtor would find attractive. In the meantime we live in the village a few miles away. Soon we will start to lay out the gardens and the orchard, stabilize the gully towards the bottom of the hill, repair the road as best we can, and perhaps dig a root cellar. We bought a farm, but I am not sure I will ever manage to be a true farmer. "The true husbandman," according to Thoreau, "will cease from anxiety . . . and cease from his labor with every day." I know what this means when, after a day of hauling stones, digging

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footings, cutting mortises, or mowing weeds, I return home after dark and fall early into a deep, silent sleep. But there are also nights when I lie awake counting the money I am saving, and calculating how much we will need for the house. There are nights when, in spite of the aching back and sore body, the anxiety of plotting, planning, and scheming to hurry the time when the farm will be "it" keeps me awake into the early morning. It is then I know that I cannot hide the problem of how I live under the question of where I live. It is then that I know that, much more than the irony of searching for the thing I have already left behind, the economic perversity of real estate, or the technical fallacies of agribusiness, it is the question of right livelihood that must concern me.

The concept of right livelihood suggests that there is a way of being in the world that is suitable to our place in it, wherever and whatever that place is — whether

it is in the country growing vegetables or in the city riding the subway. It is not, after all, that life in the city had ceased to make sense, but that I had ceased to be able to make sense of the life I had come to live in the city. The same could happen in the country. If buying a farm and growing vegetables is to be in any way different from living in the city, if it is the right thing to do, if it is what I am supposed to do, then it must be a way of being in the world that makes sense — economically and technically, to be sure, but also metaphysically and spiritually. "Tilling" may be a better word for this than "farming": if it is to be a life that makes sense, then the whole of it must be a striving, an exertion, a seeking and laboring after; it must be a life of bestowing attention on the very ground of being. ■

Patterns in Comparative Religion, Mircea Eliade: Out of print. Peter Smith, 1974.

The Culture of Technology, Arnold Pacey: MIT Press, 1983.

The Sickness Unto Death, Soren Kierkegaard: Robert L. Perkins, Ed. Mercer University Press, 1987.

The Great Good Place

The Great Good Place is about the routines of everyday institutions of community. These overlooked "third places" (after home and work) are what make civilization. I thought of Whole Earth's online salon, the WELL, the whole time I was reading the book. Coffee shops and general stores work through exactly the same dynamics that make the WELL work as a hangout. The author says that democracy emerges chiefly out of these kinds of community centers; I believe him. We need more great good places. They are not so much built as raised; they will grow naturally if you don't prevent them. My hope is that everyone will read this book and let great good places happen.

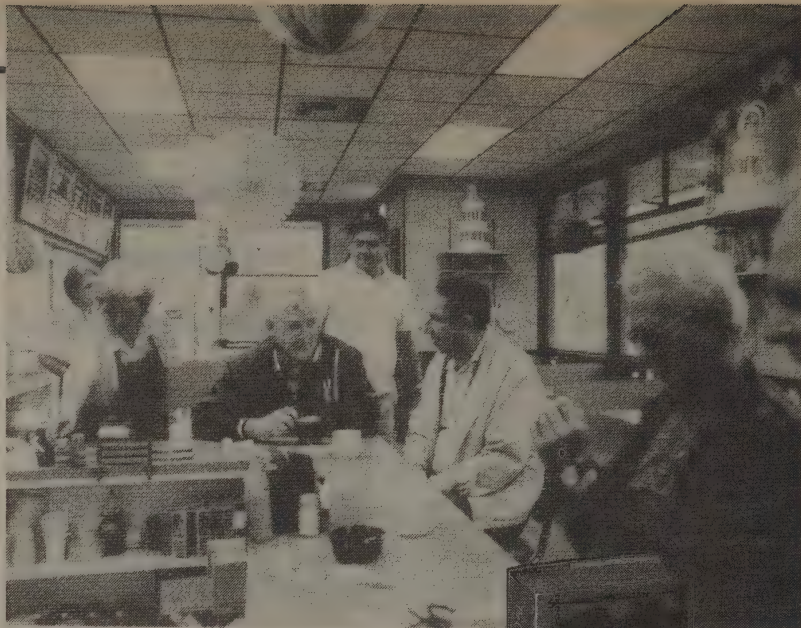
—Kevin Kelly

• Third places exist on neutral ground and serve to level their guests to a condition of social equality. Within these places, conversation is the primary activity and the major vehicle for the display and appreciation of human personality and individuality. Third places are taken for granted and most have a low profile. Since the formal institutions of society make stronger claims on the individual, third places are normally open in the off hours, as well as at other times. The character of a third place is determined most of all by its regular clientele and is marked by a playful mood, which contrasts with people's more serious involvement in other spheres. Though a radically different kind of setting from the home, the third place is remarkably similar to a good home in the psychological comfort and support that it extends.

• What the tavern offered long before television or newspapers was a source of news along with the opportunity to question, protest, sound out, supplement, and form opinion locally and collectively. And these active and individual forms of participation are essential to a government of the people.

• The tremendous advantage enjoyed by societies with a well-developed informal public life is that, within them, poverty carries few burdens other than that of having to live a rather Spartan existence. But there is no stigma and little deprivation of experience. There is an engaging and sustaining public life to supplement and complement home and work routines. For those on tight budgets who live in some degree of austerity, it compensates for the lack of things owned privately. For the affluent, it offers much that money can't buy.

• The activity that goes on in third places is largely unplanned, unscheduled, unorganized, and unstructured. Here, however, is the charm. It is just these deviations from the middle-class penchant for organization that give the third place much of its char-



The donut shop where the author starts his day.

acter and allure and that allow it to offer a radical departure from the routines of home and work.

• There are many among us who give countless hours of passive attention to the television set, who are content to watch one "L.O.P." (Least Objectionable Program) after another, and who nonetheless insist that time spent in a tavern or coffee shop is wasted. Those who provide television programming certainly know better. Time after time, in the face of labor strikes or high unemployment, the television crews find their way into the taverns of Pittsburgh or Detroit to report on the mood and outlook of the working person. The media folk know full well that it is in such places that workers come to understandings about the role of management and government and, as well, the postures of their own unions. It is in such places, more than any others, where the democratic process survives. It is in the local diner, tavern, or coffee shop

The Lincoln Highway

"We were motorists as far west as Chicago. Then we became pioneers."

—Victor Eubank, *Log of an Auto Prairie Schooner*, Sunset 1912

Opened in 1913, the Lincoln Highway was our first coast-to-coast route. It was hustled by a private association of men who stood to gain a lot if they could entice Americans into hitting the road. (The president of the association was also president of a car company.) They were clever. The time was ripe. The book mixes well-researched history, legends, and lies, and serves them garnished with fascinating and sometimes heartrending photographs of our country abuilding. This is how our car culture was born.

—J. Baldwin



The Great Good Place

(Cafes, Coffee Shops, Community Centers, Beauty Parlors, General Stores, Bars, Hangouts, and How They Get You Through The Day)

Ray Oldenburg, 1989; 338 pp.

\$19.95 (\$21.95 postpaid) from Paragon House, 90 5th Avenue, New York, NY 10011; 800/727-2466

that those who face common problems find their common ground, give substance and articulation to group sentiment, and offer social support to one another.



The Lincoln Highway

Drake Hokanson, 1988; 159 pp.

\$18.50 (\$21 postpaid) from University of Iowa Press/Publications Order Dept., Oakdale Hall, Iowa City, IA 52242; 800/235-2665

• Some twenty-five thousand people passed through the Palace of Transportation during the two days that Joy's Packard stood

City of Quartz

Los Angeles has been the bellwether of urban America for almost fifty years. Urban theorist Mike Davis gives us a stark picture of where LA is today and where the rest of America's cities are headed.

Davis is a passionate and perceptive observer. When he gets down to earth and describes what he sees — as in his analyses of LA as security metropolis, of the growth of a corporation-controlled art world that leaves culture-from-below out in the cold, of the racist militarization of the LAPD, and of the startling political power of the nativist, NIMBY homeowners' associations — his vision of LA is vivid and chilling.

But this book has serious faults: its organization doesn't work, the overly precious leftist academic rhetoric sometimes gets indecipherably thick, and Davis is so attuned to the dispossession of the poor and the nonwhite working class that he overlooks the transformations of LA that are impoverishing the white upper middle class as well. Still, this is a tough perceptive book about a grim world that we're beginning to see unfold around us.

—Robert Rossney

Several years ago the city opened a 'Skid Row Park' along lower Fifth Street, on a corner of Hell. To ensure that the park was not used for sleeping — that is to say, to guarantee that it was mainly utilized for drug dealing and prostitution — the city installed an elaborate overhead sprinkler system programmed to drench unsuspecting sleepers at random times during the night. The system was immediately copied by some local businessmen in order to drive the homeless away from adjacent public sidewalks. Meanwhile restaurants and markets have responded to the homeless by building ornate enclosures to protect their refuse. Although no one in Los Angeles has yet proposed adding cyanide

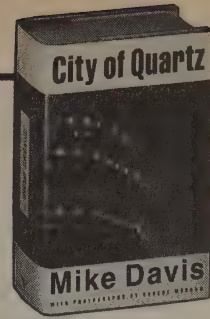
to the garbage, as happened in Phoenix a few years back, one popular seafood restaurant has spent \$12,000 to build the ultimate bag-lady-proof trash cage: made of three-quarter inch steel rod with alloy locks and vicious outturned spikes to safeguard priceless moldering fishheads and stale french fries.

An extraordinary example, the flagship of an emerging genre, is Welton Becket Associates' new Metropolitan Detention Center in Downtown Los Angeles. . . . This post-modern Bastille — the largest prison built in a major US urban center in generations — looks instead like a futuristic hotel or office block, with artistic charms (like the high-tech trellises on its bridge-balconies) comparable to any of Downtown's recent architecture. But its upscale ambience is more than mere facade. The interior of the prison is designed to implement a sophisticated program of psychological manipulation and control: barless windows, a pastel color plan, prison staff in preppy blazers, well-tended patio shrubbery, a hotel-type reception area, nine recreation areas with nautilus workout equipment, and so on. In contrast to the human inferno of the desperately overcrowded County Jail a few blocks away, the Becket structure superficially appears less a detention than a convention center for federal felons — a 'distinguished' addition to Downtown's continuum of security and design. But the psychic cost of so much attention to prison aesthetics is insidious. As one inmate whispered to me in the course of a tour, 'Can you imagine the mindfuck of being locked up in a Holiday Inn?'

The Fontana area — or rather the parts of it that are not named 'Heritage' or 'Eagle Pointe Executive Homes' — is a landscape of randomly scattered, generally uncollectable (and ungentrifiable) debris: ranging from Didion's creepy boulders to the rusting smudge-pots in phantom orchards, to the Burma-Shave-era motel names (like 'Ken-

there in muddy glory. Among them no doubt were many who pondered an automobile trip of their own, a trip longer than the usual Sunday drive, or something beyond the leisurely tour of nearby towns and parks. They stood and looked at this earth-colored car, resting as it did among flawless and polished new automobiles of every manufacturer. Certainly this exhibit convinced the faint of heart that the train was the better way to get from place to place. But for a growing number of people who itched for a long auto trip, it kindled the flame of adventure, it struck the spark of new experience.'

Iowa's Lincoln Highway provided considerable challenge for motorists during wet weather. In 1919, this mudhole in Story County was representative of conditions across the state.



City of Quartz

Mike Davis, 1990; 462 pp.

\$24.95 (\$27.45 postpaid) from Routledge, Chapman & Hall, 29 W. 35th Street, New York, NY 10001-2291; 212/244-3336 (or Whole Earth Access)

Tuck-U-In' on Foothill Boulevard. Even crime in Fontana has a random surreality about it. There is, for instance, the maniac who has murdered hundreds of eucalyptus trees, or Bobby Gene Stile ('Doctor Fel-don'), the king of obscene phone calls, who has confessed to 50,000 dirty phone conversations over the last 23 years.

Given an open season to terrorize gang members and crack dealers, the LAPD predictably began to exceed the call of duty. On 5 April they shot down an unarmed teenager covering behind a small palm tree on Adams Boulevard. He was alleged to be reaching suspiciously into his pants; more importantly, he was a 'suspected gang member' — a category that now seemed to justify abuse or even execution. A few weeks later, HAMMER forces, storming one of the nearly five hundred 'rock houses' that they claim to have put out of business in 1988, poured double-ought buckshot into an 81-year-old retired construction worker. No drugs were actually found, there was strong suspicion that the police had an incorrect address, and the victim's niece, a witness, testified that he was killed with his hands held up. The LAPD merely replied that gangs were now paying off elderly people to use their homes as sales points. No disciplinary action was taken.

Under the listing for Fish Springs, the Lincoln Highway guide for 1916 said: "Ranch meals and lodging. Hot sulphur springs close to ranch. If trouble is experienced, build a sage brush fire. Mr. Thomas will come with a team. He can see you 20 miles off."

In general, the *Blue Books* were surprisingly accurate, but occasionally things went amiss. Alice Ramsey, crossing northern Ohio in 1909 on her historic trip, was unable to find a certain intersection where she was to make a left turn at a yellow house. Stopping at a farm to inquire, she learned that the intersection was some distance behind. Ramsey was told that the owner of the yellow house was "agin'" automobiles and had intentionally repainted it green to disorient motorists.





ZINES are the periodicals that live in the cracks between the major journals you can find on the newsstands. They are published all over the country, circulate primarily by mail, and are done for love rather than money.

Because they're hobbies rather than businesses, zines can be freer in what they say. But this also means you have to be more patient in dealing with them. The typical zine publisher comes home after a long day at some real job and then spends another six hours writing, designing, and trying desperately to answer her mail. Be patient when you write. Send a stamped, self-addressed envelope if you want more information. Send well-wrapped cash, or checks made out to the person doing the publishing rather than the name of the zine, which probably doesn't have a bank account. And above all, be prepared to be surprised, entertained, outraged, amused and informed by these, the irrepressible outlaw publishers of the world.

ACCESS TO ZINES

BY MIKE GUNDERLOY AND CARI GOLDBERG

Notes From the Dump

\$20/year from Terry Ward, P. O. Box 39, Acworth, NH 03601.

Acworth is a little town in southern New Hampshire, about fifteen miles due north of Keene. As far as I know, it had no claim to fame until around 1987, when Terry Ward began publishing *Notes From The Dump*. Terry's approach epitomizes the no-frills end of the publishing spectrum. Every couple of weeks he puts together six pages of memories, ruminations on world affairs, notes on his love life, firewood ads and other drifting thoughts. Then he runs copies off on his computer printer, folds and stamps them, and tosses them in the mailbox — whence they spread across the world, bringing little bits of New Hampshire to the rest of us.

Roseanne was on her way to cop some crank when she flipped her little Sportster on the Cross Island Expressway, tumbled headlong into a concrete road divider and died on the spot probably so high on methedrine she's still high and never knew what hit her. Roseanne was absolutely the ultimate example of life in the breakdown lane.

Like a lap dog I followed her around. We drove taxi together in New York for three years and I would schedule my work day around hers in order to just be able to see her and talk to her — o that dear sweet voice and that wonderful smile which would light up a room — and she was gifted, endowed with this uncanny ability to play the piano from the blues of Elmore James to the lilting melodies of Brahms, o I tell you piano was her forte.

Mike Gunderloy and Cari Goldberg are the publishers of *Factsheet Five*, the essential guide to zines of all stripes. Sample copy \$3.50, 8 issues for \$23 from 6 Arizona Avenue, Rensselaer, NY 12144-4502.

—Howard Rheingold

Ben Is Dead

\$10/6 issues from P. O. Box 3166, Hollywood, CA 90028.

Music is one of the most common zine topics, especially on the punk side of things. There are a zillion little local zines, each reviewing live and recorded sounds and interviewing a few bands. Some, though, stand out from the pack: *Ben Is Dead* is one such. Editor Darby is interested in networking and helping other people, and so in addition to the canonical features, *BID* has included material opposing pay-to-play (the practice of clubs forcing bands to come up with guarantee money up front), explaining how to set up your own gigs, and so on.

Then, on the other hand . . . if I were forced to choose only one word to describe this band it would be "stupid." They are so careless and chaotic — a perfect live punk rock performer. To give you an example: the lead singer jumps up on one of the tables near the stage and while he's doing his thing the bassist (if I remember correctly) kicks the table right out from under him. The singer lands on his back atop of the round metal base of the table (enough to paralyze — at least temporarily — the normal human) and then gets up, without a tear, and gets right back at it. I mean a hero . . . an absolute drunken bum of an idiotic hero. I also appreciate the fact that [the Dwarves] took the price of my admission off their pay in order to get me into the club; but believe me, that didn't prejudice me into calling the band members stupid — I really, truly think they are.

Thanateros

\$6 from P. O. Box 89143, Atlanta, GA 30312.

God is a bartender, not an accountant. . . . Before, after, and between lives and deaths, we gather about God's teakwood bar, and rum and coke in hand, pay our price of admission to this theater of life. We tell the old fart all of our best tales. The more dramatic and vivid we make them (embellishments and lies are encouraged), the more liberal he is with our tab. Toward those who saw fit to live safely and routinely, with stories as dull as soup spoons, God does tend to write most pissedly.

MAG



CALLINGS

Volume 1 · Number 6 (★ ALL THE NEWS THAT'S FIT FOR PIGS ★) Autumn & Winter 1990

Hog Callings

\$10/year from Whimsical Productions, 1301 Henry Street, Berkeley, CA 94709.

REALLY REALLY TEENSY: The hydrogen molecule is indeed the smallest of all molecules, but if only every third atom in just one cubic inch of hydrogen were enlarged to the size of an unpopped grain of popcorn, that popcorn being popped, the salt which would be required to salt the popped popcorn would, when diluted with water only to the average salinity of sea water, need a quantity of water enough to run Grand Coulee Dam long enough to generate enough electricity to run your vacuum cleaner till the bag plugged up and made enough noise to really get on your nerves a lot!

The Upright Ostrich

\$25/year from Peggy Poor, P. O. Box 11691, Milwaukee, WI 53211.

Pamphleteering has a long and honorable history as a way to disseminate political opinions denied expression in the mainstream media. This sort of thing is still going on in the zine world, from more directions than you might imagine. *The Upright Ostrich* is one "Constitu-

...tionalist" zine, concerned with getting the government off the backs of the citizens (or as they put it: "In the decade *The Ostrich* has been published, our principal thesis has been the fraud, corruption, lying, sleaze, theft, and other criminality of our own government"). They worry about the sinister New World Order, investigate suppressed inventions and ideas, cry out loudly in the face of abuse of power by the IRS and other agencies, and urge a complete overhaul of society. Sometimes their hobbyhorses are of a different color indeed — for example, this is one of the few places where you can find a stream of articles about the abuse of prison inmates when prisons get privatized.

Newsletter of the Coalition for Jobs and the Environment

\$6/year from P. O. Box 645, Abingdon, VA 24210-0645.

The Things You Need To Know To Become a Public Health Official: 1. All toxic chemicals are non-toxic until proven otherwise. 2. The only statistically significant death is my own. 3. Safety first, or last. 4. I believe in God, the epidemiologist. 5. Any potential disaster should be studied until it occurs. 6. Crazy until proven dead.

Sipapu

\$8/2 issues (plus 6.5% tax in California) from Noel Peattie, 23311 County Road 88, Winters, CA 95694.

If you're still struggling to make sense of the zine world, you might find *Sipapu* to be of help. Noel Peattie bills his newsletter as being "for librarians, collectors, and others interested in the alternative press, which includes small and 'underground' presses, Third World, dissent, feminist, peace, and all forms of indescribable publishing in general." Around half of the zine is devoted to reviewing this literature and interviewing those responsible; the other half reflects Noel's professional career, with notes from meetings of the American Library Association, the Society for Scholarly Publishing, and more. Slyly witty and with a fine sense of small-publishing history, *Sipapu* has become an essential in my own search to figure out What It's All About. It's also fine reassurance that voices of

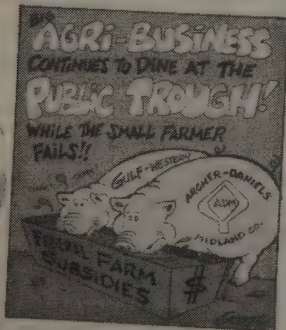
freedom and dissent have not been silenced in this era.

Turn we now to Tom Clark . . . who goes after the language poets in "Stalin as Linguist." This turns out to be the latest report on a battle begun over an article of the same name in a 1985 issue of "Poetry Flash" (San Francisco), in which Clark's criticism of the "language" school brought bitter criticism of him in reply, scores of letters and threats to cancel ads to the magazine. In general, Clark's criticism of the language poets is that they are incomprehensible, contract the basis of poetry instead of expanding it, and that their criticism has taken priority over their poetry and is filled with jargon.

THE UPRIGHT OSTRICH

VOLUME IX NO. 7

AUGUST 1990



"For here we are not afraid to follow the truth wherever it might lead, nor to tolerate any error so long as reason is left to combat it." — Thomas Jefferson

Great Expeditions



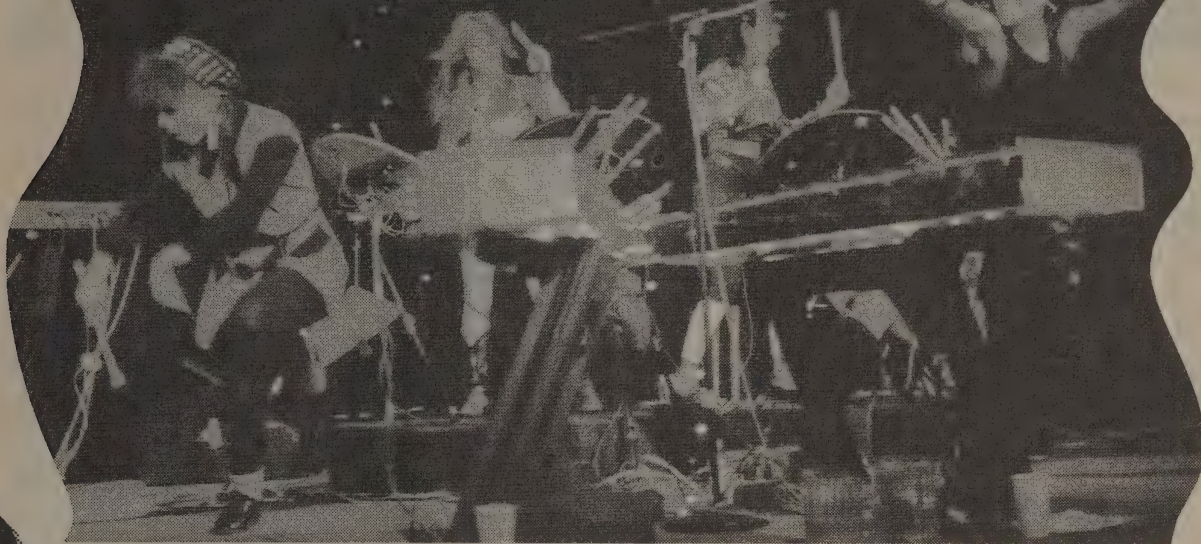
Great Expeditions

\$4 from P. O. Box 8000-411, Sumas, WA 98295-8000.

Pakistan International Airlines allows firearms on board, but if you have batteries in your hand luggage there may be problems! I had to remove the batteries from my camera and walkman and put them with my checked luggage before they would let me board; the reason being that batteries can be used to make bombs! ▶

Four Flew over D'CUCKOO's Nest

by Flash Gordon, M.D.



D'CUCKOO, a San Francisco Bay Area-based women's electronic marimba ensemble and collective, has garnered rave reviews and raving fans. Fascinating contrasts — of primitive rhythms from their high-tech, homemade instruments, of powerful female energy driving traditional "male" drumming — are their stock in trade.

D'Cuckoo's music is not what you might think of as "electronic music." It's a varied and danceable blend of African, Asian, pop, and funk. It's not trendy or pretentious — it's simply the most interesting music I've ever heard. In fact, I danced for the first time in my life at a D'Cuckoo show.

D'Cuckoo started in 1986 when Patti Clemens, Candice Pacheco, and Tina "Bean" Blaine, then in San Francisco's Underground Marimba Ensemble, decided to expand the musical horizons of the marimba. Candice recalls asking Patti, "Wouldn't it be great if we could have instruments that looked like marimbas, but that could trigger all types of sounds?" Soon afterward, they started searching for instruments.

After investigating commercially available hardware, they decided to build their own. Luckily, Candice met physicist David Reed in 1987. He became interested in their project, and got Bruce Newcomb, a chemist, to help. David and Bruce helped design the instruments, and Aisle of Women built them.

The instruments are called MIDI controllers. MIDI stands for Musical Instrument Device

Interface: hitting a key on a MIDI instrument plays a preselected sound from its programmed repertoire. The sound played doesn't have to be from a musical instrument: through the use of samplers, a MIDI controller can produce sounds like zippers, heavy breathing, or even different spoken words for each note. D'Cuckoo has used them all.

After much experimentation, they came up with the unique electronic MIDI triggers now used. The instruments take two forms: the MIDI/marimba and the electronic drums, or "turtles." The turtles are most heavily used by Tina Phelps, whose background includes Taiko drumming, which is much more intense than typical marimba playing. All band members use the MIDI/marimbas, though Bean and Patti play them most consistently. Candice often plays guitar and/or synthesizer.

Candice Pacheco composes and plays synthesized guitar, drums, keyboards, and MIDI/marimbas. She has a strong background in composing music and in programming electronic instruments and computers. She also helped develop the Electronic Music Department at Sonoma State University, as well as helping to develop its current Music Theory program.

Bean Blaine has spent much time traveling in Africa, studying music and dance. Inspired by marimba groups doing traditional music of Zimbabwe, she returned to the U.S.

in 1986 to study Shona marimbas. Bean composes, sings, and plays keyboards, MIDI/marimbas, drums, and occasional synthesized bass.

Patti Clemens taught and performed theater improv with Second City in Chicago. She's been a lead vocalist in many shows, choirs, and groups in Chicago and the San Francisco Bay Area.

Tina Phelps spent over five years studying, teaching and performing with the San Francisco Taiko Dojo, as well as studying classical piano, flute, trap drums and percussion. She now plays the turtles, marimbas, and keyboards with D'Cuckoo. Her style of drumming is the most physical music I've ever witnessed.

The band recently returned from a tour of Japan, where they played everything from small clubs to outdoor festivals. After their return, they went into the studio with Brian Eno, who heard them play at last October's Cyberthon. He put them together with a couple of the Neville Brothers band members for a session of "Broken Down African Industrial Robot Dance Music" or "Juju Space Jam." Look for the CD, from Opal Records, later this summer.

There's no other band on the planet I'd rather hear. ■

Flash Gordon is a keyboard player, journalist, motorcyclist, physician, and computer consultant. Check out the D'Cuckoo ad in Unclassifieds. —Howard Rheingold

Charcoal Bricolage:

The Fuel-Efficient Sudanese Cookstove

by George Wirt

TAP, TAP, TAP . . . tap, tap, tap . . . tap, tap, tap.

Walking through the narrow alleys of a bustling marketplace in the Sudanese city of El Obeid, you can't help being drawn to the rhythmic staccato of an artisan at work.

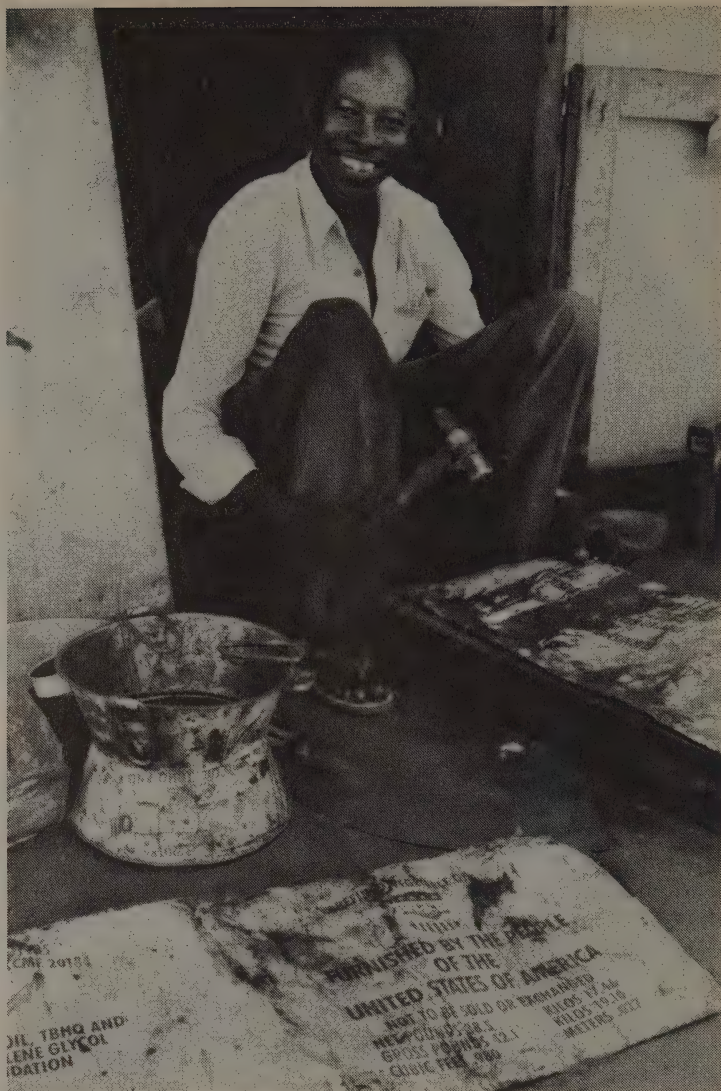
Down past the odd stray goat, a quick stutter step around a cluster of curious children, and a fast turn past the shoppers gesturing emphatically as they bargain with hard-nosed merchants, a cluttered and beat-up-looking stall is starting to attract lots of attention.

Mohammed Hassan squats comfortably in the shade of the makeshift canopy at the passageway to his shop. Hassan is a tinsmith. To a wide-eyed passerby, Hassan is more like a wizard with a hammer and sheet metal. He puts on daily matinees that rival any magic act on Broadway.

Working in the searing heat well above 100 degrees, Hassan coolly dissects and dismembers a can that once held surplus vegetable oil donated by the U.S. to help feed Sudan's drought victims. In a region short of materials even metal scraps aren't allowed to go to waste.

Carefully wielding an old pair of shears, Hassan cuts the metal. Within seconds, he has a crinkled, flattened sheet of steel that he sizes up against a three-foot-long section of railroad track which he uses as an anvil. A few quick taps, a turn of the wrist: the sheet of steel starts to take on a conical shape.

First one piece, then a second. Hassan fits



CARE photo by George Wirt

CARE, the international relief and development organization, is helping skilled craftsmen like Hassan to produce the stoves, which use little fuel, are cheap to operate, and help slow the loss of Sudan's dwindling forests.

This story by George Wirt, former director of public relations for CARE, is one example of how CARE helps people in developing countries, through the use of simple technologies, to preserve their natural resources. For information about participating in CARE's environmental activities, write to Donor Services, CARE, 660 1st Avenue, New York, NY 10016.

—Howard Rheingold

them together, attaches them with rivets, and hammers a bottom into place. More rivets secure three U-shaped clips. They are to hold pots above a ceramic liner dropped into the stove's upper chamber.

In the time it takes to preheat a modern oven, the can is transformed into an hour-glass-shaped stove.

"They gave me an original model from which I've made these copies," Hassan says, nodding toward a five-foot-high pile of the stoves. "I still have many more to make."

Hundreds more, in fact. With help from CARE, the international relief and development organization, Hassan and many fellow craftsmen are turning out fuel-efficient stoves or stove parts in one of the largest appliance-manufacturing projects in the East African nation.

The stove couldn't have hit the marketplace

at a better time. Sudan is a desert country with few natural resources. Its forests are being cut down for charcoal production so fast, experts fear there won't be any trees left in a few years.

With the trees gone, CARE forestry specialists warn, Sudan's topsoil is unprotected. It is blown away by winds or eroded during rains. What's left is barren, sandy soil that can't support farming, straining the capacity of the remaining farmland to produce enough food for Sudan's 20 million people.

For this reason, CARE provides technical and financial support for the stoves program, says Fudol Omer, a local manager for CARE. More than 22,000 stoves are currently in use, saving an estimated 59,400 tons of wood every year.

"The program uses local craftsmen and materials to solve a local problem," he says. "The design is simple and efficient, and the stoves are so popular we barely stay ahead of demand."

For manufacturers like Farouk Ahmed, the public clamor in the marketplace is sweet music.

"The customers love these stoves because they cook faster and hotter, and cost much less to operate," Ahmed explains as he walks visitors through his shop. "They find the new stoves use only about half the charcoal their traditional stoves burn."

The stoves pay for themselves in only four months and last seven years or more, according to Ahmed. The secret is in the hourglass design. Charcoal is burned in the lower chamber. The heat is funneled straight up into the second compartment where the cooking pots are placed on top of the inch-thick ceramic liner.

"I'm happy with the stoves, too," says Ahmed, whose shop contributes to the monthly production quota of 600 stoves. "Manufacturing them allows me to provide employment for tin-smiths and a pottery maker."

"It is nice to know that the stoves we make will help save trees," he says. "Now maybe our forests won't be destroyed." ■

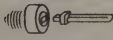






























Rising Sun Sampler

One of our favorite success stories, the rising Rising Sun Enterprises, Inc. — one of the world's largest purveyors of low-energy lighting and other good stuff (*Ecolog* p. 61) — has a new catalog out that at last makes it easy to choose which bulbs you need. Now you have abso-

lutely no excuse at all. Remember, these bulbs make a significant difference; just one can prevent the emission of 2,000 lbs. of CO₂. —J. Baldwin

Rising Sun Sampler

\$5 postpaid from Rising Sun Enterprises, Inc., P. O. Box 1728/158½ Midland Avenue, Basalt, CO 81621; 303/927-8051

Screw-In Energy-Efficient Lighting Products	Total Power Consumption (Lamp & Ballast)	Approximate Incandescent Equivalent	SAVINGS			
			Avoided Utility & Lamp Costs*	Avoided CO ₂ Emissions		
STANDARD						
Compact 7-Twin 	10.8 W	40 W	\$27	767 lbs		
INDOOR FIXTURE APPLICATIONS						
Table/Floor Lamp 	Bare Bulb Socket 	Open Pendant 	Closed Pendant 	Open Wall 	Open Wall 	Closed Wall/Ceiling 
						
OUTDOOR FIXTURE APPLICATIONS						
Track Can 	Recessed Can 	Protected Floodlight 	Pole Mounted 	Wall Mounted 	Ceiling Mounted 	Temp. Range F° 
						-20 to 130
 Best		 Suitable		 Not Recommended		

Negawatts Video

The redoubtable Rocky Mountain Institute (RMI), so often featured in these pages, shows the supply-side Bushies to be embarrassingly out of touch, thoroughly behind the times, and lacking in good sense. Without getting into politics, RMI luminaries and power-company executives show that right now, today, without reducing convenience or our standard of living, the USA could cut electricity use by 75 percent. This worthy goal could be accomplished by utilizing proven, available technology. It's difficult to see why this strategy isn't enthusiastically implemented; profits would increase, pollution would be nipped before it hap-

pened, and we'd need a lot less foreign oil. Perhaps folks just don't know it can be done? This 20-minute color video should help take care of that.

RMI also has a new pamphlet called *Water Efficiency For Your Home*. It isn't just for us Californians. —J. Baldwin

Negawatts
(A Gold Mine of Opportunity)

\$20 postpaid
Water Efficiency For Your Home
\$1 postpaid

Both from Rocky Mountain Institute, 1739 Snowmass Creek Road, Snowmass, CO 81654-9199





The 270-foot statue of Motherland (Volgrad) is not fixed to its pedestal, its own great weight providing the only support. The scarf blowing away behind the neck

alone is said to weigh 250 tons. Motherland's local nickname is "Brezhnev's Auntie".

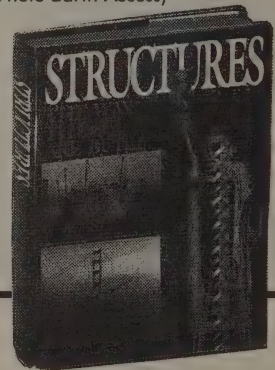
Structures

When critics refer to the "built environment," they rarely mean the monuments to vision, hubris and folly celebrated in this fascinating book. The selection is eclectic and purposefully ordered: Socialist Realism sculpture is contrasted with the Statue of Liberty; the world's largest nuclear nuke is followed by the world's largest solar collector. Marvel at the Panama Canal, the Great Wall of China, tombs, pyramids, towers, bridges, fortresses, ancient and ultramodern palaces — even the gigantic underground factory where Hitler produced V2 rockets. The promise of the book's subtitle — "The Way Things Are Built" — is kept, but in a brief, cursory way marred by careless editing and the author's occasionally snide asides. Nonetheless, it's hard to put down. The terrific photographs and diagrams keep you turning the pages, each new spread sure to be something you didn't know or have never seen before. —J. Baldwin

Structures

Nigel Hawkes, 1990; 240 pp.

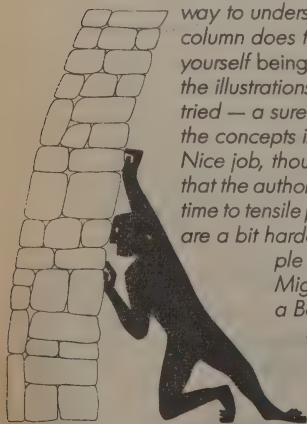
\$39.95 postpaid from Macmillan Publishing Co., 100 Front Street, Riverside, NJ 08075; 800/257-5755 (or Whole Earth Access)



What It Feels Like To Be A Building

This ultra-basic book uses simple drawings of people and animals to explain the structural principles inherent in any common "piled" building; what better way to understand what a column does than to imagine yourself being one? Some of the illustrations just ask to be tried — a sure way to instill the concepts in a young mind. Nice job, though I do wish that the author had given equal time to tensile principles, which are a bit harder for most people to comprehend. Might we hope for a Book Two, or even a series?

—J. Baldwin

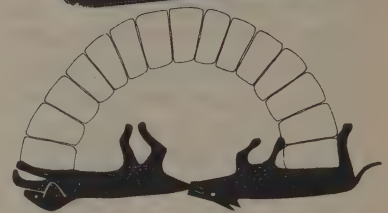
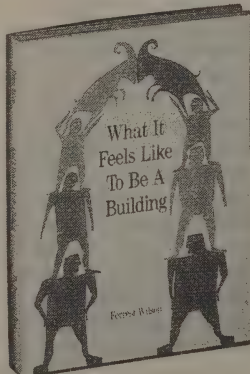


It feels like **BRACE** to be a buttress, because a buttress supports a building's walls.

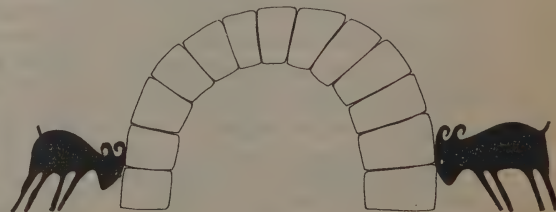
What It Feels Like To Be A Building

Forrest Wilson, 1988; 80 pp.

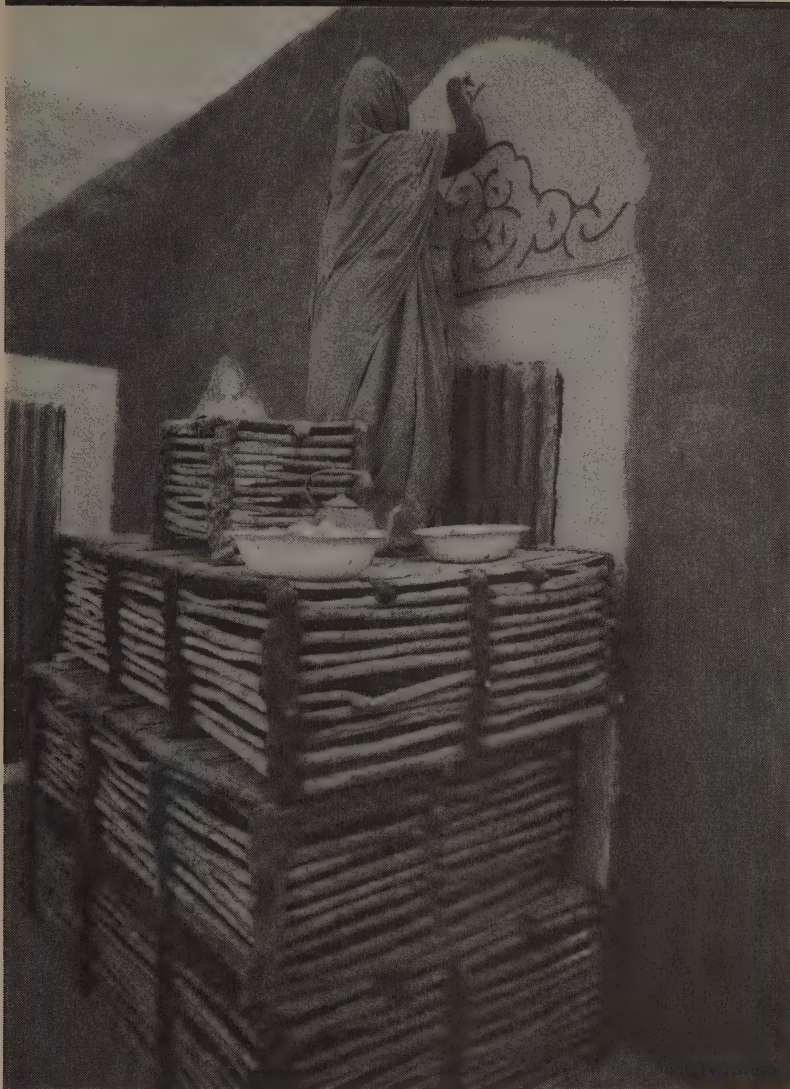
\$10.95 (\$12.45 postpaid) from Preservation Press, 1785 Massachusetts Avenue NW, Washington, DC 20036; 202/673-4058 (or Whole Earth Access)



It feels like **TUG** to be a rod, because rods can use their pull to do what buttresses do with their push. They pull in exactly the places



where buttresses would push.



Spectacular Vernacular

A loving, appreciative look at building with mud (adobe) in Africa and Asia, complete with a look at the practicing cultures. Spectacular indeed, and humbling as well; most of the structures shown make most of our conventional architecture look distressingly unimaginative and sterile — in a way that has little to do with mud. It all makes one hanker to do something amazing in Arizona.

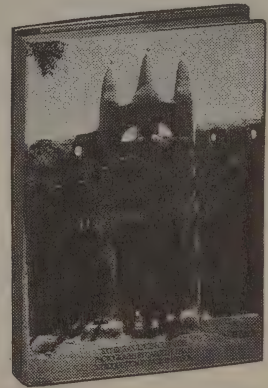
—J. Baldwin

Spectacular Vernacular

(The Adobe Tradition)

Jean-Louis Bourgeois and Carollee Pelos, 1989; 191 pp.

\$35 (\$38 postpaid) from Aperture, 20 E. 23rd Street, New York, NY 10010; 212/505-5555



In Walata, Mauritania, a woman incises decoration into a layer of mud plaster. She is standing on a stack of beds.

Universal Patterns

The Golden Mean. Fibonacci Numbers. Dynamic Rectangles. Spirals. Do you know what they are? Did you once but can't remember? Assuming that you care — and there is plenty of reason to be interested — here is what must be the all-time clearest explanation of such phenomena, and how they inform our lives. You'd be surprised at how much of our world is proportioned according to these principles. The authors relate difficult abstractions to everyday things, making them easy to see. A reasonably intelligent 14-year-old could probably understand, because the presentation is comprehensible rather than challenging. Applied by a suitably attuned teacher, the book could be (and is currently used as) the basis for a wonderful course. Would that all math books were this lucid!

—J. Baldwin

55

Universal Patterns
(The Golden Relationship:
Art, Math & Nature)
Martha Boles and Rochelle Newman,
1990; 266 pp.

\$29.95 (\$33.95 postpaid) from Pythagorean Press, P. O. Box 162, Bradford, MA 01835-0162

89

34

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The relationship between the Fibonacci numbers, the Golden Rectangle, and the Golden Spiral.





Dr. Ann-si Li gives acupuncture to Mimo, her own 17-year-old cat.

Acupuncture for Pets

by Jeanne Miriam Breen

Jeanne Miriam Breen lives in San Francisco. Her desire to write was sidetracked by raising a family, and by a business career. She's now a grandmother and semiretired; this is her first article.
—Richard Nilsen

Some 500 U.S. veterinarians treat pets with acupuncture. To get the name of a veterinarian near you, call The International Veterinary Acupuncture Society in Chester Springs, Pennsylvania. Ask for Executive Director Meredith Snader. The telephone number is 215/827-7245.

ON A RECENT SATURDAY, an eight-year-old German shepherd named Buttons sat on the floor of the Campanile Veterinary Clinic in Oakland, California. He had thin needles sticking out of his head, neck, the flesh above his lower spine, and his thighs. His owner sat on a bench nearby, placidly glancing at her watch from time to time. Buttons was receiving acupuncture, and all was well.

One day three years ago, Buttons fell down while running in the park and began to cry. After that, he could no longer run, and could hardly walk.

His owner, Margaret Horstman, took him to her veterinarian, who suggested an animal neurologist. The neurologist gave no conclusive diagnosis, merely saying that there was deterioration and recommending that Buttons be given steroids. This was done, but Buttons still couldn't walk. The prognosis was very bad.

It was then that Margaret Horstman brought Buttons to Dr. Ann-si Li at the Campanile Veterinary Clinic and started acupuncture. Buttons began to improve. He started to walk, and then to walk for distances, and finally to play. When Ms. Horstman brought him back to her veterinarian, the veterinarian was amazed. The deterioration had ceased.

What is acupuncture? Who is Dr. Ann-si Li?

Acupuncture treats disease through the insertion of thin needles into designated parts of the body. It causes only a little pain, usually characterized by a tingling sensation.

According to the classical doctrines of Chinese medicine, there is an unceasing flow of life energy, or *chi*, through the body. When the energy is smooth and in balance, the person or animal will feel healthy. If the balance is disturbed, there will be illness or pain. Acupuncture restores the balance.

Dr. Li has been a veterinarian for twenty-two years and has practiced acupuncture for nine. Although acupuncture is part of her ethnic background, she didn't really get interested in it until an "eccentric" uncle returned from a visit to China raving about its benefits. At that point, Dr. Li rethought her position. She called a veterinarian who did acupuncture and "apprenticed" herself to him for a year, visiting his office every Saturday. Later she did additional studies in acupuncture, in the United States and Hong Kong.

"Acupuncture is very important to consider when the patient does not respond to conventional medicine," Dr. Li says. "Also it is a wonderful way to relieve pain without the side effects that drugs can have."

This has surely been true for Buttons. And Buttons knows when he will be visiting the Campanile Veterinary Clinic. Margaret Horstman says, "Dr. Li. Dr. Li," and Buttons understands perfectly that he will be receiving a treatment. He goes willingly, for the needles cause him little pain.

"We've learned from working with Buttons what he will tolerate," Ms. Horstman says. "He likes to sit on the floor for treatments, not on the table. He will indicate when the timer is about to go off; gets up, wants to move, gives small barks."

Now Buttons shifts his weight slightly, and Margaret Horstman gently touches him. "Good boy. Good boy," she says softly. Buttons looks at her calmly and settles himself comfortably on the floor.

Shortly before Ms. Horstman arrives with Buttons, Dr. Li is treating Duchess, a ten-year-old spayed female Welsh terrier. Duchess is on the table, wearing a muzzle. There are acupuncture needles in her legs and back, attached to an electro-stimulator machine, which enhances the effect of the needles and shortens the amount of time they are necessary.

"We're not afraid of Duchess," Dr. Li says. "She's not a mean animal. We put the muzzle on to protect us only because we must handle her and she's in pain."

Duchess is on antibiotics for pancreatitis; blood tests show her pancreas is inflamed. The disease started at the end of July, when Duchess was vomiting profusely and bleeding. She is somewhat better now. This is her third acupuncture treatment.

Duchess stands mournfully but quietly on the table as the acupuncture takes its course. She does not struggle or try to get away. Probably she can sense that these humans are trying to help her.

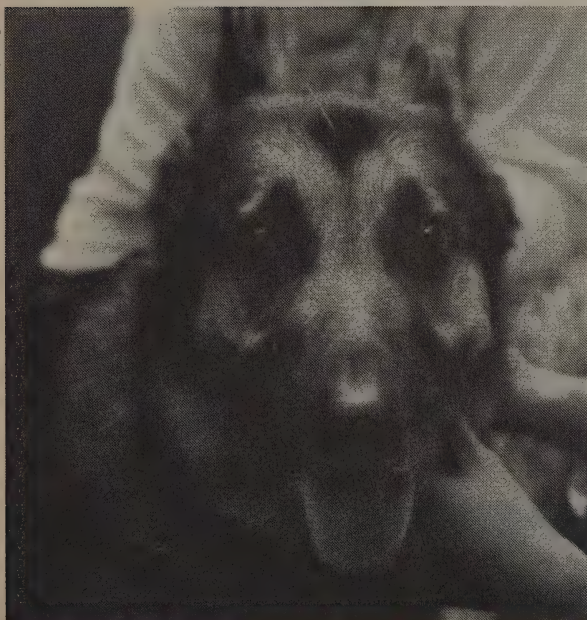
"The use of Western medicine, combined with acupuncture, enables us to increase our success rate enormously," Dr. Li comments. "This is because we use the best of both worlds."

It has been a coincidence that there have been only dogs at the clinic for acupuncture this morning. Dr. Li treats cats with acupuncture as well. "Lots of cats," she says. "I treat them for behavior problems, skin problems, and kidney disease. Also many other things."

Acupuncture for animals can be used as a treatment for traumatic injuries, muscle strains, and various other conditions. It can reduce pain and cause a dramatically increased feeling of well-being. A course of treatment is usually three to six sessions. Acute cases should be treated twice a week for several weeks, then at longer intervals.

"Dr. Li is a most caring person," Margaret Horstman says, describing Dr. Li's care of Buttons. "If not for acupuncture, I would have had to put Buttons to sleep. This way I can keep him with me. And that's important." ■

Gary Wagner



Buttons with an acupuncture needle in his forehead. An unceasing flow of life energy is being rerouted through Buttons, enabling him to walk and run again.

Farm Tools for Efficiency BY RICHARD NILSEN

A FIFTH YEAR of drought in the West has focused attention on water like nothing else could. That blues lyric is exactly right: you don't miss your water 'til your well runs dry. At a recent farm tour sponsored by the Committee for Sustainable Agriculture*, the growers all had the lack of rain on their minds, but the most innovative among them are not merely adapting to the drought. Looking at farming as a system, and making changes toward greater efficiency wherever they can, they are finding themselves in relatively good shape to make it through a drought. But the changes they have made save much more than just water.

Better Bell Peppers

Pat Herbert raises some of the best bell peppers on the market. He also grows onions and broccoli, with 600 acres spread over two farms near Hollister and Gilroy in central California, where his great-grandfather settled in 1868. The ranch produces 300,000 boxes of bell peppers a year; at the peak of the season 150 employees pack out over 7,000 boxes a day. Pat designed and built his packing-shed equipment. He is an innovator who has recently switched his pepper production to organic methods, explaining, "I got tired of spending a lot of money and not getting any results."

The clay soil here has to be worked during the winter when it is wet, because once dry it acquires the consistency of adobe brick. Herbert started his changes by posing one key question. "I just asked everybody — why do we work the ground?" He thought back to the horsedrawn plows of his grandfather, and compared them to the enormous tillage tools on modern tractors. One reason farmers plow as often as they do, Herbert concluded, is because they have technology that lets them. The other reason is to control weeds. He has discovered that "working the ground deep is a big mistake. The less you work the ground, the better it is, and the less you need the herbicides." This is because plowing brings buried weed seeds to the surface, where they sprout.

Herbert's new way of raising bell peppers starts with fields arranged into permanent beds, with a buried irrigation drip tape running under each one.

He uses a turbulent-flow drip irrigation tape manufactured by Chapin Water-matics, Inc. It comes on a big roll and is buried directly behind a single chisel plow moving down the bed. This is precision farming: the tractor wheels always roll in the same place so the soil in the beds is never compacted. The plastic irrigation tape is buried permanently, not so shallow that tillage tools can tear it up, but not so deep that the plant roots have trouble finding the moisture. The tape also delivers liquid fertilizers.



The peppers are direct-seeded the first week of April, and aluminum sprinkler pipe is spread out over the fields to germinate the seed. Peppers like warm soil, so what comes up first is a crop of weeds. With the old method, Herbert would have gone through and sprayed herbicide, but now he has opted for an older technique — he uses propane to kill off the weed seedlings with a brief searing flame a day or two before the peppers break ground. The young weeds don't catch fire or turn black, but their cell walls rupture in the intense heat and they wither and die.

Up come the peppers in a weed-free field. At this point, the sprinkler irrigation is removed and the underground drip system turned on. The surface of the ground dries out, the pepper plants' roots reach down and find the buried

moisture, and no more weeds can germinate during the rest of California's rainless growing season. This system eliminates the need for both herbicides and expensive tillage, or as Herbert says, "No herbicides, no hoeing."

The innovations don't stop there. Herbert used to bring the peppers in from the field, wash them in chlorinated water, and then wax each one. More chemicals, more expense. Now he does neither, and spends his money instead on trucking and streamlined handling, to assure that each pepper reaches the cold-storage locker in less than one hour.

Herbert grew 220 acres of peppers last year and used no herbicide. His drip-irrigation tape cuts water use by half. His new cropping system means he saves fuel and needs to buy new tractors less often. The old system required twelve to fifteen tillage passes each year, low-gear grinding at one to three miles per hour. The new system using a propane flame means only two or three passes each year, at a speed of seven or eight miles per hour. The average yield on bell peppers in this part of California is twelve to thirteen tons per acre. The Herbert Ranch produces twenty-seven tons to the acre, peppers famous for their thick walls and in great demand on the market.

Hand-Held Soil Lab

Understanding what's going on in the soil is basic to any kind of farming. Up to now, most answers to questions about soil chemistry have required taking soil samples, sending them off to a lab and awaiting the results. That's starting to change, thanks to a line of products from Horiba, Ltd. of Japan. A classic example of a technology-based company, Horiba has thirty-five years' experience



*The Committee for Sustainable Agriculture sponsors an annual Ecological Farming Conference in California each January. They also host farm tours and farm field days around the state throughout the year. CSA: Box 1300, Colfax, CA 95713; 916/346-2777.

with electronic sensors, used mainly to measure emissions in factory smokestacks. Founder Art Horiba decided to expand the idea of sensors out in the field instead of in a lab, and came up with the Cardy family of meters ("Cardy" from credit card, although these sensors are closer in size to a cassette tape).

At present the family has six members — a pH meter, a soil-salts conductivity meter, a nitrate meter, a potassium meter, and a pair of sodium meters that utilize the same sensor but give readouts either in parts per million or as a percentage. Place a drop of liquid from a soil solution (or from a crushed leaf, a vat of

wine, or your well) on the sensor and you get an instant readout. Each meter will register between two and three hundred times, after which a replacement sensor can be quickly snapped into place.

Ted Peck works in the soil-test lab at the University of Illinois and helped Cardy's American distributor, Spectrum Technologies, with evaluation and calibration. He calls the meters "disgustingly accurate." And Richard Smith, Cooperative Extension Agent in Hollister, reflects on the Cardy as yet another incredibly useful hand-held gizmo from Japan: "This is the kind of equipment you can make when you don't have an economy that's geared toward making laser-guided missiles."

So will these hand-held meters put the soil-test labs out of business? Spectrum Technologies' Michael Thurow says no. As yet, there is no meter for measuring total nitrogen, or for phosphorus. He sees Cardy Meters as diagnostic farm-management tools that will help farmers make vastly more sophisticated decisions in the field, and also tell them whether they need the more definitive information that can come from a soil-test lab.

One more question, one more tool. Just how do you get that drop of soil solution to put onto the Cardy Meter sensor? You use a soil-solution access tube, a suction line and a syringe. Basically that's a piece of half-inch PVC pipe fit-



ted with a porous ceramic tip, a small suction hose, a stopper and a finger clamp, to which you attach a disposable (and reusable) 50cc syringe. Stick the tube into the soil to the desired depth, pull a vacuum, and out comes the liquid for testing. All these tools are available from the Irrrometer Company, Inc., which sells a whole line of devices for measuring soil moisture. ■

Horiba Cardy Meters: \$174-\$294; replacement sensors \$35-\$65. Catalog **free** from Spectrum Technologies, Inc., 12021 S. Aero Drive, Plainfield, IL 60544; 800/248-8873.

Turbulent twin-wall drip-irrigation hose: Information **free** from Chapin Watermatics, Inc., 740 Water Street, Watertown, NY 13601; 315/782-1170.

Soil-solution access tube: \$16.75 from Irrrometer Company, Inc., P. O. Box 2424, Riverside, CA 92516; 714/689-1701.



The Guide to the U.S. Organic Foods Production Act of 1990

These are exciting times in the organic-foods industry. After numerous states passed their own organic-food production laws, the federal government has finally responded. The 1990 Farm Bill included an "Organic Foods Production Act," which mandates national standards to govern the production and handling of organic food products, beginning in October 1993. States can still pass more restrictive laws, but they cannot keep out products from other states if those products meet the new federal standards.

The broad outlines have been drawn; the details remain to be haggled out. A National Organic Standards Board is being established, and the nitty-gritty decisions about what is organic and what is not will largely be decided there. Sabotage by an unfriendly chemical company or from higher up in the federal government is still a distinct possibility, but this is a major step forward.

The Guide is a spiral-bound booklet that will be extremely useful for anyone involved with this issue. Longtime organic

advocate and produce man extraordinaire Stuart Fishman has taken apart the new law and rendered Federalese into plain English. —Richard Nilsen

Introduction

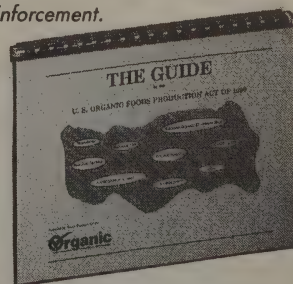
An understanding of the U.S. 1990 organic food law and familiarity with the organic regulations USDA must create by May, 1992 will help organic food growers, processors, manufacturers, distributors and retailers prepare their operations to meet U.S. standards when the law is implemented on October 1, 1993.

The format of this law is simple but the details are complex. The law covers these areas:

- **Standards** for organic food farmers, processors, manufacturers and wholesalers.
- **National List** of substances permitted or prohibited for organic use.
- **National Organic Standards Board** to consult with USDA on administering the law and creating/amending a National List.
- **Certification** of organic farmers and handlers (processors, manufacturers and

wholesalers).

- **Label requirements** for products sold as organically produced.
- **Record-Keeping requirements** for products sold as organically produced.
- **Residue-Testing requirements.**
- **Administration and Fees.**
- **Enforcement.**



The Guide to the U.S. Organic Foods Production Act of 1990

Stuart Fishman, 1990; 22 pp.

\$7.50 (\$10 postpaid) from Stuart Fishman, 5628 SW Miles Court, Portland, OR 97219; 503/245-2309

Second Nature

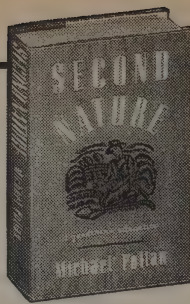
First we "tamed," then "preserved," wilderness — and we're still not sure what we mean by "wilderness." Is it first-growth forest, pre-whiteman, pre-Indian, or land restored by man to one of those states? While creating his own garden, Michael Pollan searched for a new way to perceive and interact with nature. By looking at his own and America's past the author exposes attitudes toward nature, expressed in public and private spaces, that continue to change the land.

In a way, gardens focus our feelings about nature. Before Americans can develop a garden style as the English and Japanese have, we must define the essence of American land.

—Kathleen O'Neill

So far, at least, American garden design (does the phrase evoke anything?) has achieved little of the distinctiveness found in American writing, music, art, or even cooking. Garden design remains the one corner of our culture in which our dependence on England has never been completely broken. Those who care about the look of their gardens still hire English designers (or their imitators) and study English gardening books. Even at this late date, anglophilia continues to rule American gardening.

And yet from the English perspective, some of our most prized gardens scarcely



Second Nature

(A Gardener's Education)
Michael Pollan, 1991; 258 pp.

\$21.95 (\$23.85 postpaid) from Atlantic Monthly Press, c/o Publisher Resources, P. O. Box 7001, Laverne, TN 37086; 800/937-5557 (or Whole Earth Access)

deserve the label. I'm thinking here of Central Park, surely one of the most successful man-made landscapes in America. So how is it that Russell Page can offhandedly dismiss Olmsted's masterpiece as "a stunted travesty of an English eighteenth-century park"? The first time I read this, I bristled at the judgment. But now I think I understand what he means. Even by the relatively informal standards of the English landscape garden on which it is modeled, Central Park is woefully literal and under-designed (Page faults it for a "total lack of direction"). Yet this radical informality and utter lack of artifice is probably what we like best about it. Central Park pretends not to have been designed. It is less a garden than a counterfeit natural landscape, and New Yorkers seek in it the satisfactions of nature rather than art.

The Gourd

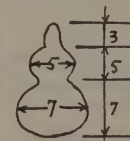
Around the world, and for thousands of years, gourds have been treasured. They still are, and no wonder! Gourds are a marvel, a natural amazement, like camels or giraffes. Everyone with a bit of soul and garden space should grow gourds. They're perfect for implements, containers, musical instruments, and just for fun.

But don't get seed from garden stores or catalogues and expect miracles. Just because gourds are ancient doesn't mean they can be treated lightly. There's a culture to it: both botanical (cross-fertilization is a problem) and, well, cultural (in the Georgia hills they say, "Gotta hard-cuss the seed if you wanna grow gourds").

For solid information on growing, crafting, lore, and seed, get **The Gourd**. It's a network for gourd-lovers across the country and a fantastic slice of down-home America. The quarterly is a labor of love and a thing of wonder — these people are descendants of your grandma's neighbors. It's not out to save the world, but it preserves an extraordinary plant and a beautiful part of our culture. If you want a giant "Hercules' club," Dipper gourd, or luffa sponge, or just want to keep in touch with simple pleasures, go with **The Gourd**. It rekindles hope.

—Andrew Dick

On August 23, one of the hottest days of this bitter summer, I called on Mr. Ando. He took me to his persimmon orchard, five minutes from home, by car. Behold, on the ground there grew numberless Sennari gourds which I yearned for. All of the smaller size and good shape, perfectly 7:5:3 proportioned. (As shown in sketch.)



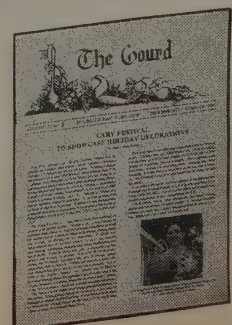
His creeds for the natural farming to maintain the genuineness of the Sennari gourds, I have learned, are no watering, no fertilizing, no

excessive caring for — that is, no pruning, no hand pollinating nor disinfection. The strongest alone survive in the merciless surroundings and the species becomes stronger after generations.

The Gourd

Publication of the American Gourd Society, Inc.

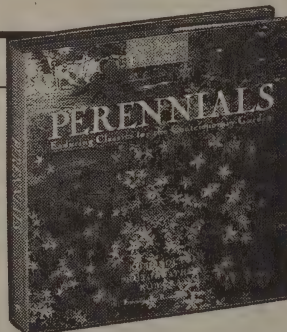
\$5/year (4 issues) from P. O. Box 274, Mt. Gilead, OH 43338; 419/946-3302



Antique Flowers: Perennials

Plants go in and out of fashion just like everything else. Perfectly good plants disappear from nurseries and then are rediscovered. If you are looking for something a bit unusual, creating a period garden, or just interested in the historic use of perennials, this chatty book will pollinate your imagination. The author is also a flower arranger who uses these plants to create bouquets for antique vases.

—Kathleen O'Neill



Antique Flowers: Perennials

Rob Proctor, 1990; 160 pp.

\$29.95 (\$33.45 postpaid) from HarperCollins Publishers/Order Dept., 1000 Keystone Industrial Park, Dunmore, PA 18512; 800/331-3761 (or Whole Earth Access)

The wild Rampion of Europe, *Campanula rapunculus*, figured in a fairy tale collected by the Brothers Grimm. In it, a husband raided the neighboring witch's garden for the tender Rampion greens to satisfy the cravings of his wife. He was apprehended by the witch, who was very annoyed and absconded with their firstborn and locked her in a tower. The witch, besides being up on her Latin, had an ironic bent, and named the girl Rapunzel (after *C. rapunculus*).



A sea of yellow is created by *A. fillipendulina* and annual sunflowers.

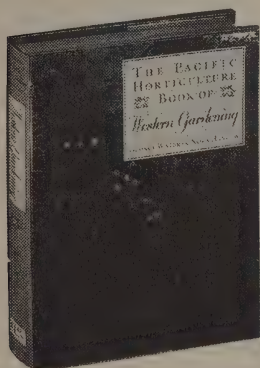
The Pacific Horticulture Book of Western Gardening

Focusing first on the weather patterns of the West Coast, *The Pacific Horticulture Book of Western Gardening* reminds us that gardening success comes with understanding the local climate. Northern California's mild, wet winters and dry summers are shared with other Mediterranean climates around the world; plants from these areas do well in gardens here. Discussions of drought-tolerant and native plants and their use in the garden, water conservation, historical gardens, and garden crafts round out this beautiful book.

These essays, distilled from over twenty years of *Pacific Horticulture* magazine, impart variety, richness, and wisdom.

It is important to recognize and support regional gardening. If you know of any great books, newsletters or plant sources for your area, let us know so we can pass the information on.

—Kathleen O'Neill



The Pacific Horticulture Book of Western Gardening

George Waters and Nora Harlow, 1990; 300 pp.

\$50 (\$54 postpaid) from David R. Godine, Publisher, Inc., 300 Massachusetts Avenue, Boston, MA 02115; 617/536-0761 (or Whole Earth Access)

In general . . . westerly sea breezes in summer are happily the rule in all our regions. Without them, the many long days of clear skies would become unbearably hot and dry, and many of the plants that now endure this period would undoubtedly not survive. Travel brochures for Perth and Capetown stress the afternoon sea winds that afford relief on days that have begun with the threat of uncomfortable heat. The fact is that all our Mediterranean climate areas lie opposite great oceanic summer high-pressure areas and all have cold ocean currents off their shores, conditions that create cool winds but almost never bring rain.



"Del Rey," a modern hybrid of Pacific Coast native irises.

Growing Native

If you've decided to explore the cultivation of native plants, it's nice to have an enthusiastic hand-holder. For Californians, that hand to hold could be *Growing Native*, a nicely-put-together newsletter that will help you to learn about these interesting plants, how to find them, and some basic propagation techniques. It's also a good place to begin a dialogue with other enthusiasts. One of the nice things about a newsletter is its recurrence: where a book may be neglected on the shelf, a newsletter will revive interest each time it arrives.

—Kathleen O'Neill

[Suggested by Sarah Satterlee]

When Gerda Isenberg moved onto part of what had been an old cattle ranch in a canyon west of the crest behind Palo Alto, no one, least of all she, had any idea what would come of it. She had no vast plan, just an interest in ferns, which grew into a desire to grow some of the plants she saw in the environment around her.

Today, more than thirty years later, the 7-acre Yerba Buena is the oldest native plant nursery in northern California with an enormous selection of plants (more than 500 in the upcoming catalog) and a huge, mature demonstration garden with identifying signs.

To give you an idea of what's available: You can choose from 40 different monkey-flowers (*Diplacus* and *Mimulus*) (many still blooming now), more than 70 varieties of manzanita (*Arctostaphylos*), almost 60 kinds of *Ceanothus*, nearly 20 native ferns (and even more exotic ferns — she still loves them) and hundreds of shrubs and

perennials. Yerba Buena also carries Larner Seeds.

You will also find a big assortment of trees — madrones, a good selection of oaks, poplar and cottonwood, the Catalina Ironwood, buckeye and lots of conifers.

4. Northern Coastal Scrub

This community only exists in relation to the Redwood Forest; it provides a buffer zone between the Redwoods (or where the Redwoods were) and the Coastal Strand from Oregon to San Mateo County and, briefly, from Pacific Grove to Point Sur, mostly below 500 feet.

Rainfall here is from 75" in the north to 25" at the south end of the range. Temperatures fluctuate little, with means from a 35 deg. low in Winter to 75 deg. high in Summer. Growing season is 10-12 months long. Plants rarely grow over 6' tall and often densely, but also includes sweeping areas of grass.

Limitations are wind and poor water retention in rocky soils. Visit in May or June for best show.

5. Coastal Sage Scrub

This community forms a band on dry, rocky slopes from the Mid Coast Ranges to Baja, below the Chaparral and lower than 3000'.

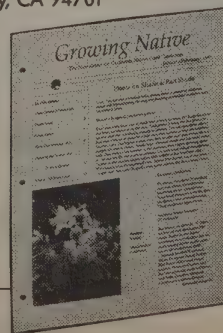
Rainfall ranges between 10 and 20" and the growing season may run from 8 to 12 months. Temperatures range from a mean Summer maximum of 90 deg. to Winter minimums of 37 deg. Plants are generally low but more open than the Chaparral community.

Limitations here are poor water retention and dry Summers. See this community in late April or May.

Growing Native

Louise Lacey, Editor.

\$30/year (6 issues) from P. O. Box 489, Berkeley, CA 94701



The Playroom

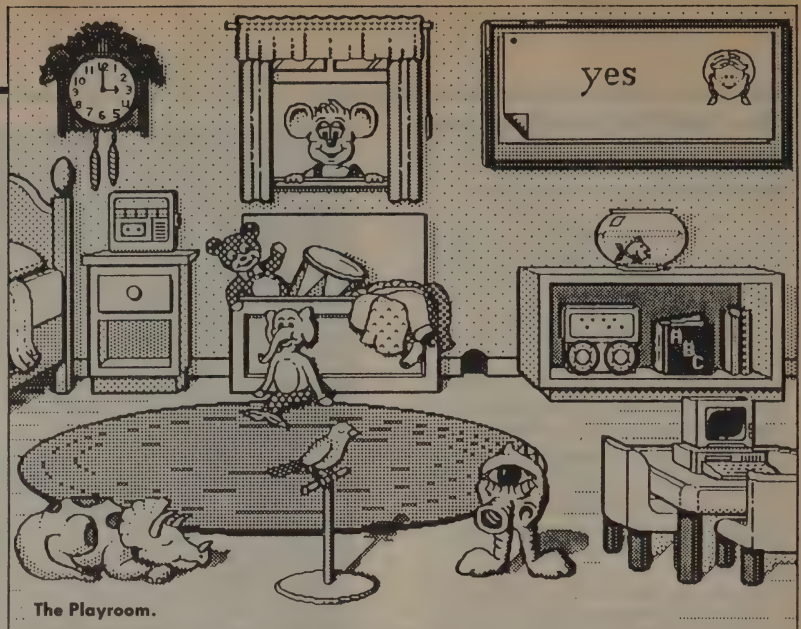
First, you double click on the Playroom picture, and then you see a room full of stuff. You find out about the stuff by clicking on it and watching what happens. There's a clock and a goldfish bowl and a baby dinosaur and other things. You can dial the telephone. I like the letter-thing. When you click on the book in the bookshelf in the playroom, you get the letter-thing. Click on a letter and it shows you a picture and the name of the thing in the picture and a voice tells you the name. So if you click on the letter "a" you see a picture of an archer and the word "archer" and a voice says the word "archer." If you click on D, you get a dragon. That's in the castle world. You can go to the farm world and get farm animals. Or there's a city with cars and buildings. You can figure out the words when you see them again. Then you can drag the archers and dragons and put them around the castle. You can move them around and put as many things as you want in the picture and make up stories about them. When my daddy's friends come over and bring kids we can play with Playroom while the grownups do grownup things. —Mamie Rheingold

The Playroom

Copy-protected. Apple II **\$39.95**; IBM/Tandy **\$44.95**; Macintosh **\$49.95** from Broderbund Software, Inc., P. O. Box 12947, San Rafael, CA 94913-2947; 800/521-6263

Kid Pix

I like Kid Pix even better than the grown-up drawing programs because it has lots of noises and it's fun to experiment with all the different goodies. It's more fun to play with than Nintendo because I can make up my own stuff. I can explore the



The Playroom.

menus and always find new things to play with. The stamp-pad is neat. I can make my own stamps. If I hold down the shift key I can make things bigger. My dad showed me how to put my own voice in the drawings, too, so I can make up picture stories that talk and sound like me. There are different pens and pencils and erasers. I like the eraser that goes BOOM and the eraser that shows you a secret picture. And sometimes I make my own coloring book by printing my drawings and coloring them with crayons.

—Mamie Rheingold

(Note from Mamie's dad: We all love this software. It's a very well-designed product; it even has a "Small Kids Module" that makes it impossible for a very young explorer to do naughty things to your own files. Mamie plays with it for hours, and sometimes I sit down and doodle with it and record a secret message when Mamie is asleep. In the

morning, she sees a new drawing on the screen and plays the sounds. We showed Kid Pix to her first-grade teacher, who didn't want to stop. With a scanner and a MacRecorder, we are doing homework projects and a diary. Mamie takes pictures and I scan them and import them into Kid Pix; Mamie records her own voice notes to go along with her photographs.)

Kid Pix

Macintosh: **\$49.95**. Requires Mac Plus or higher; System 6.0 or higher; 1MB memory for monochrome, 2MB for color. From Broderbund Software, Inc., P. O. Box 12947, San Rafael, CA 94913-2947; 800/521-6263

MacRecorder

The MacRecorder Sound System includes digitizing hardware (the MacRecorder itself) and software, SoundEdit and HyperSound. For maximum fun with Kid Pix, we digitized our voices and miscellaneous sounds, and added them to drawings. My six-year-old learned how to work the digitizer and SoundEdit software after a two-minute demonstration. Now she is using HyperSound to add sound effects and saucy comments to her HyperCard stacks. I could see a clever teacher using a flatbed scanner, MacRecorder, and Kid Pix or HyperCard to enliven classroom curriculae. We are bringing a camera and tape recorder to our next family reunion, so Mamie can make her own oral-history and family-tree stack.

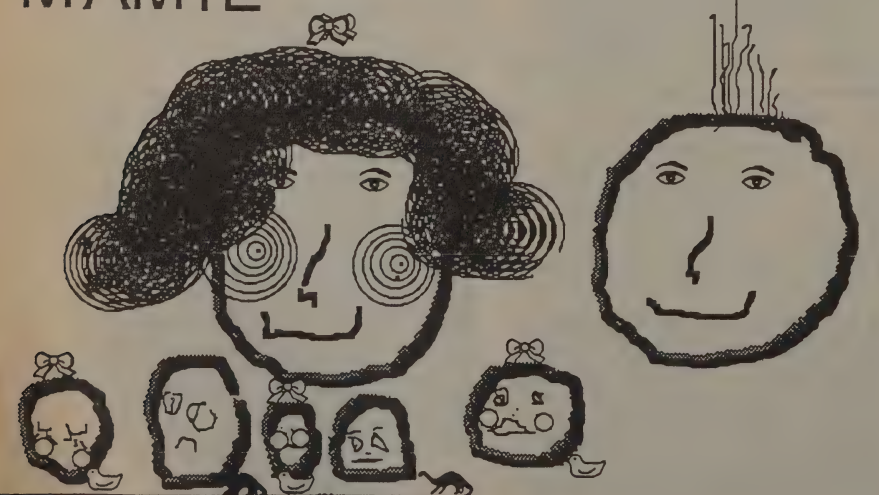
—Howard Rheingold

MacRecorder Sound System

For Macintosh; requires 512K RAM. HyperSound requires Hypercard 1.2.1 or later, a Macintosh Plus or later, and a hard disk.

\$249 from Farallon Computing, Inc., 2000 Powell Street/Suite 600, Emeryville, CA 94608; 415/596-9000

MAMIE



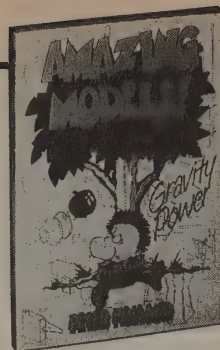
Amazing Models!

When the lure of Lego dims, what's a kid to do? Most of the offerings in so-called model shops require little more than a similarly unchallenging assembly of pre-molded parts. Consequently, most kids these days don't have the slightest idea how to really make complicated things, or even think about it (which is the important part). In MY day — har-rumph — you had to fabricate all the parts of a model yourself. While doing so, you learned how to make and, more importantly, how to figure things out. A complex model airplane might take months of clever, meticulous craftiness (and, just as in the real, adult world, about two seconds to crash and burn

if skill or luck were lacking).

This Pied Piper of a book presents plans for eight intriguing, gravity-powered things, to be made from stuff (yogurt cups, paperclips) you likely have around the house. All the projects are of the "rainy afternoon" variety. All come with casually drawn, but very clear, instructions that include a discussion of the physics involved (Jr. High science project, anyone?). What must be one of the all-time great lessons in general how-to and tool technique gets you started. Give the book to your favorite kid, and try not to meddle too much. (It's in King's English, so you may have to do a bit of translating.)

—J. Baldwin



Amazing Models!

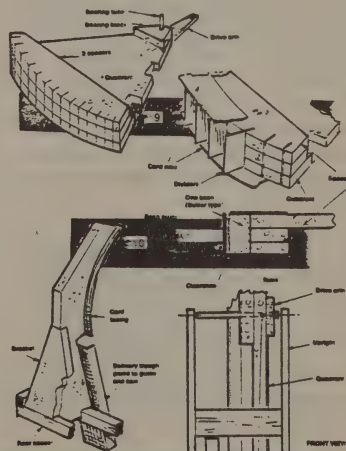
Peter Holland, 1990; 62 pp.

\$7.95 postpaid from TAB Books, Inc., Blue Ridge Summit, PA 17294; 800/822-8138 (or Whole Earth Access)

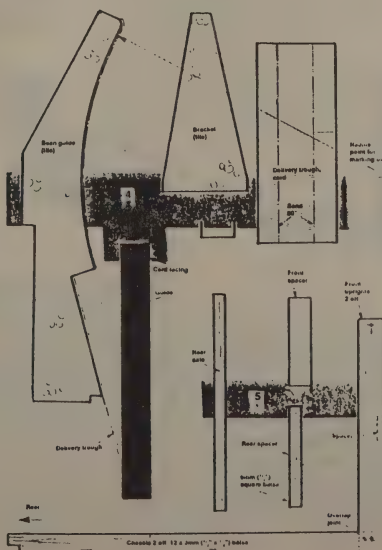
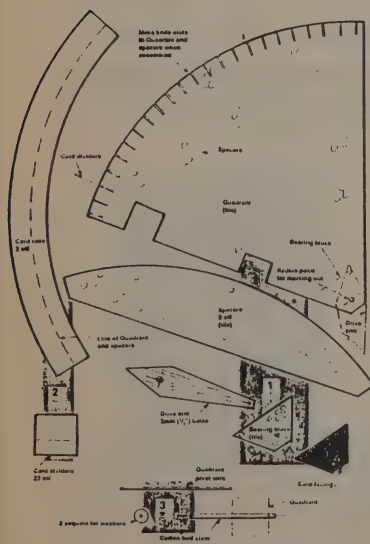
Bean Planter

Suppose a vehicle has a heavy load to carry. Later, that load is much less. It would be ideal if the vehicle had high power at the start, then, as the load was reduced, used less power.

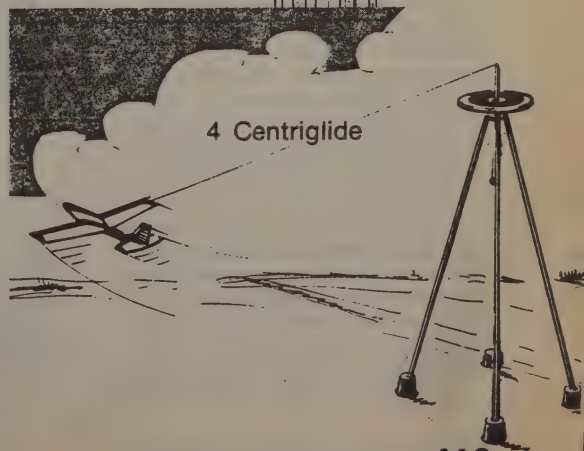
Some machines and some weight-driven models do not have this advantage; they waste energy when there is not much work to do. The 'fuel' for this model is partly the weight of its cargo. It plants butter beans. As it gets rid of more beans by planting them in a neat, evenly-spaced row, it becomes lighter, so the weight of the remaining beans can still help to drive it along.



5 Bean Planter



4 Centriglide



The Kid's Guide to Social Action

Kids are a great force for social change, one that is usually untapped. Elementary- and high-school students are aware of environmental and social problems and care about them passionately. But few young people know exactly what to do about creating solutions. This book shows cases concrete examples of kids who have influenced policy and solved problems in municipalities, counties, and states. It offers step-by-step advice on how to go about selecting a social problem, finding a creative solution, and putting it into action — writing letters that work, making effective telephone calls, creating speeches, conducting surveys, circulating petitions, writing proposals, helping with fundraising, arranging media coverage, assisting political campaigns, lobbying. The book also offers a rich directory of resources — state house contacts, US government offices, contact groups — with addresses and telephone numbers.

—Howard Rheingold

Like many other kids' groups across the nation, the Jackson kids turned their focus to trees. They learned from the University of Michigan's *Forestry Update* that a single tree, in its average 50-year lifetime, will contribute \$62,000 worth of air pollution control. Dubbing themselves "Leaf It To Us," the younger kids decided to think big and applied for two city grants — money to use for their project. They got the grants, which totaled \$3,600, and matched that with \$720 they collected on their own. They adopted a park with the money and planted 107 trees there, and another 80 trees in their yards and near the school.

One day a fifth grader got a heavy idea. "Why don't we find money and make our own grants for kids all over the state to plant trees?" The Jackson kids contacted the governor, the state forester, and national forestry people. With the help of Dick Klason, State Forester, they found some national money for grants for children in Utah.

Not to be outdone by previous Jackson hotshots, the new kids tackled the legislature again. This time, they pushed through a law creating \$10,000 for grants for kids in Utah to plant trees. When children match the grant money (state and national) with money they collect and contribute, they will plant over \$27,000 worth of trees.

Another 10-year-old got an even heavier idea. "Why don't we find some money and make grants for kids across the nation to plant trees?" Audrey suggested, twirling a curl around her finger.

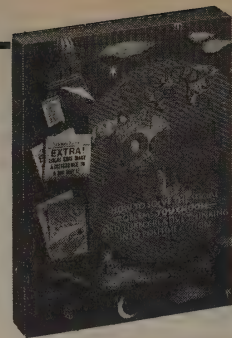
The children worked with their Senator, Orrin Hatch, to create a national fund for trees. Audrey attended the United Nations

Youth Environment Forum in New York City and passed a petition asking the federal government to make a special fund for kids to plant trees. She collected over 1,500 signatures from kids around the nation. Then she flew to Washington, D.C., to deliver her petition and to lobby senators in person.

When Audrey returned to Salt Lake City, she and her Jackson friends wrote letters to every senator in Congress, asking for their support. Although Congress did not write a special bill for them, they did attach the idea to make money available for kids to the "America the Beautiful Act of 1990" (technically called the Food, Agriculture, Conservation and Trade Act of 1990 — S2830).

Thanks to the Jackson kids, the bill now states that "youth groups" may apply for matching grants to plant trees. There will be federal money available for you to plant trees in your state.

Now, you're probably saying something like, "Yeah, but those Jackson kids are famous. I'm just a regular kid. I can't do all that." If you're a disbeliever, let me assure you. I'm their teacher, and I'll tattle on them. They sometimes forget assignments. They lose papers. Their bedrooms aren't always clean (not even Heather's). They're kids just like you, kids with dreams,



The Kid's Guide to Social Action

Barbara A. Lewis, 1991; 160 pp.

\$14.95 (\$18.95 postpaid) from Free Spirit Publishing, Inc., 400 1st Avenue N/Suite 616, Minneapolis, MN 55401; 800/735-7323

kids who care. They're not rich or unusually clever. In fact, their school has the lowest income per capita (per person) in the Salt Lake School District.

But one thing they do have is courage. They don't give up easily. They believe that the future depends on them. They're not afraid to attack things that other people say can't be done.

As Heather says, "Big things can happen in small steps."

Activity Resources

"Play" is often the best way to learn: when I watched my six-year-old daughter learn how to multiply 1/3 times 2/6 by overlaying strips of colored plastic on each other, it was like seeing something new and exciting and completely self-evident. The "fraction tiles" are constructed in such a way that the meaning of performing mathematical operations on fractions becomes intuitively obvious — the answer is literally right in front of your face. When she saw that I was enthusiastic, Mamie showed me what she

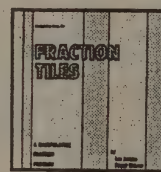
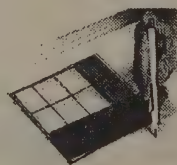
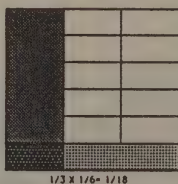
could do in three dimensions and orders of magnitude by clicking together plastic blocks in lines of ten, planes of one hundred, cubes of one thousand.

Activity Resources Company was started by an award-winning mathematics educator. Fifty-four pages full of "tools for discovering mathematics" that your kids will perceive as neat toys.

—Howard Rheingold
[Suggested by Ann McCormick]

Activity Resources Company

Catalog free from P. O. Box 4875, Hayward, CA 94540; 415/782-1300



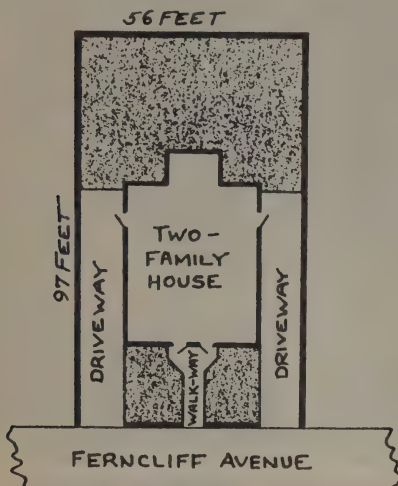
FRACTION TILES
Peggy McLean, Lee Jenkins

Fraction Tiles consist of 44 transparent plastic tiles in seven colors. Students combine the tiles to develop concepts of equivalence, addition, subtraction, division, and multiplication of fractions. Color families of tiles permit investigations involving 1/16, 1/12, 1/8, 1/6, 1/3, 1/4, and 1/2, and all work with the tiles is reinforced in a 48-page student workbook. Also included with the set is a 24-page teacher's guide with answers and a complete commentary on the suggested use of these valuable materials. Grades 2-9.

AP-1113 Fraction Tiles (Tiles only)	\$35.95
A-1115 Manipulative Bk. (32 pages)	\$5.95
A-1116 Student Book (32 pages)	\$4.95
A-1117 Teacher Book (24 pages)	\$4.95
AP-1206 Fraction Tile Package (Including tiles and 3 books above)	\$50.95

How to Make Big Money Mowing Small Lawns

This is absolutely everything you need to know: equipment, technique and how to set up and run the business. Written for,



but certainly not limited to, the average 15-year-old. It'd be hard to imagine a better book on the subject. Sneer not — as a teen mowing New Jersey turf way back in the fifties, I made enough money to buy a brand-new Volkswagen beetle, drive it all over the USA, and still have some left over for college. —J. Baldwin

From 0.24 acres (one hour of mowing time) up to 0.34 acres (two hours of mowing time) the payments remain relatively constant, at \$10 [in 1981 dollars]. Or, in other words, customers are willing to pay about the same price for house lots that range

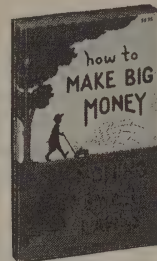
STATISTICS

- LOT SIZE — 0.12 ACRES
- MOWING TIME — 15 MINUTES
- PAYMENT — \$3.00
- HOURLY RATE — \$12.00 PER HOUR

COMMENTS

- LEVEL PROPERTY
- CUSTOMER PROVIDED A MOWER.
- JOB CONSISTED OF MOWING ONLY.

between one hour and two hours of mowing time. This is an interesting trend to be aware of. You can make the same amount of money in one hour as you can in two hours. This trend alerts you to put an emphasis on trying to get more of the one-hour jobs than the two-hour jobs, as a means of maximizing profits.



How to Make Big Money Mowing Small Lawns

Robert A. Welcome, 1983; 138 pp.

\$9.95 (\$12.95 postpaid) from Brick House Publishing Co., P. O. Box 2134, Acton, MA 01720; 800/446-8642 (or Whole Earth Access)

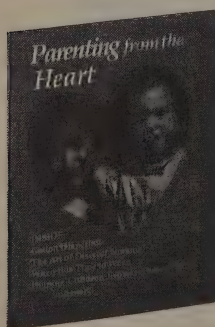
Parenting From the Heart

This is a warm, witty, free newsletter that comes wrapped around Motherwear's mail-order catalog (wish they'd just go ahead and charge a subscription fee, and not waste the extra catalog mailings). It's filled with practical "this-really-works" stuff from parents out there in the trenches battling temperamental toddlers, newborn fatigue (mom's & dad's), nursing difficulties and other challenges of childbirth.

—Paula Salaz

Parenting From the Heart (Motherwear Catalog)

Free from Motherwear, Box 114, Northampton, MA 01061; 413/586-3488



When you are nursing in a public place (such as a bus or restaurant) and you don't want people to realize you are nursing, try to avoid the madonna look where you are tilting your head and looking into your babies eyes. Everybody else will look where you are looking. Instead look straight into people's eyes (they'll tend to smile and look away without even looking down), or continue to converse with your companion the same as you would if you weren't nursing.

Some unique nursing situations that test your skills include nursing while on an airplane. I usually ask the flight attendant to reseat me if I am next to someone who will feel uncomfortable with my nursing. A light flannel baby blanket will help baby keep warm even in the constant temperature fluctuations of a plane, and can be used to cover you while nursing. Also keep a washrag or diaper tucked in the pocket in front of you to grab in case of spills or spits.

How do we know when the time is right [to wean]? I remember holding my first little nursing and telling her that she could nurse just as long as she wanted and if we had to sneak into the closet the day of her wedding, we would. Then she grew some and our family grew some and somewhere in my second pregnancy, I weaned her. It was clearly the right time for us.

I believe that the time is right to wean when one of the parties involved no longer wants to nurse. Sometimes it's the mother who wants to move in a different way or wear different clothes or get herself ready for another baby or another change in her life. Sometimes it's the child, ready to explore her world from a new perspective, who resists the retreat into that particular comfort. Either way, when someone's heart is no longer in it, it is time to begin the process of weaning.

Petal Shirt

Nursing is super easy in our petal nursing shirt. The two overlapping "petals" in the front can be arranged to cover you as you nurse on each side. It's made of cool, comfortable 100% cotton. Garment washed for easy fitting. See it pictured on Cecily below and on the back cover (she's the mother in the center). Match it up with our Cotton Knit Skirt, Pants or Shorts. Available in Jade (as below) or Rosebud. SML. \$26.



Cotton Knit Pants

Make it an outfit! Match up the Petal Shirt or T-Top with these 100% cotton elastic waist pants. They are super comfortable and super simple: just what a mother needs! Ankles are gathered with elastic, making it perfect for a work-out, a stroll, or a bicycle ride. They can be tossed in the washer and dryer, and be ready to wear when you pull them out. This is active wear especially designed for nursing mothers. Inseam 32 inches. Available in Jade (shown below) or Rosebud. SML. \$24.

An Artificial-Life Reading List

by Steven Levy

FOR THE PAST two years, I have been working on a book about artificial life (to be published in 1992 by Pantheon). Briefly, artificial life is the synthesis of processes previously thought to be exclusively biological. Since a-life views life itself as a process, rather than something dependent on certain chemical materials, the belief is that if you create something which behaves just like an organism, you have arguably created a living thing. This, of course, is a daunting task, and therefore is a long-term goal in the field. Shorter-term benefits will come by an increased ability to understand life-as-we-know-it by attempts to simulate living processes.

Besides interviewing and hanging out with the scientists and researchers who are defining this area by their theories and experiments, I've read dozens of books and articles in myriad fields: computer science, ethology, mathematics, game theory, physics, evolutionary studies, biology, biography, ecology, robotics, and some unclassifiable hybrids. I thought it might be interesting to boil my rambling bibliography down to an essential baker's dozen or so books that could provide a good background to this emerging field. Chris Langton, editor of the first books mentioned, helped me make some of the choices.



This sunflower was created on a computer using some of the same principles nature uses to grow sunflowers in dirt: the mind-manifesting interlocked spiral patterns that emerge when you stare at the seeds are the result of a growth algorithm based on the mathematical relationship known as a Fibonacci series.

Artificial Life • Artificial Life II

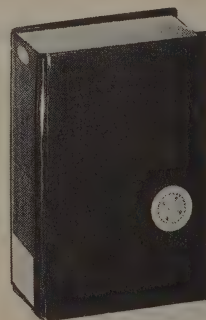
If there is an a-life bible, **Artificial Life** is it. In his scrupulous editing of the proceedings of the historic First Artificial Life Conference in Los Alamos in September 1987, Chris Langton has implicitly sketched the horizons of this diverse field of study. Langton's opening essay is a virtual manifesto of the subject, underlining the principles by which a-lifers do their research: regard life as a pattern rather than a function of specific materials, organize from the bottom up, allow behavior to emerge instead of programming it in. At the end of the book is a deep, invaluable bibliography. The sequel, **Artificial Life II**, is the proceedings of a conference held in Santa Fe early in 1990. The more rigorous papers within it show how the field is rapidly maturing as it self-organizes. It is accompanied by a fascinating videotape that shows state-

of-the-art experiments and a priceless 1950s clip of the original Penrose self-reproducing machines.

The claim is the following: The "artificial" in Artificial Life refers to the component parts, not the emergent processes. If the component parts are implemented correctly, the processes they support are *genuine* — every bit as genuine as the natural processes they imitate. —*Artificial Life*

As the available computational power grows, the "artificial life" experimental approach — based on computer simulations of systems modelling selected aspects of the natural world — becomes more and more feasible. . . . For present purposes, it is the power to create artificial organisms that combine reasonably long *simulated* lives — allowing for substantial learning —

with reasonably short *real-time* lives — allowing us to perform experiments that span many generations. Given the power of a computer workstation, an artificial creature can live a simulated lifetime encompassing thousands of learning opportunities in only seconds of elapsed time, and small populations of such organisms can be tracked over thousands of generations in only days. —*Artificial Life II*



Artificial Life

Christopher G. Langton, Editor
1989; 655 pp.

\$26.95 (\$28.95 postpaid)

Artificial Life II

Christopher G. Langton, Editor; 1991

\$32.25 (\$34.25 postpaid)

Both from Addison-Wesley Publishing Co./
The Advanced Book Program, 350 Bridge
Parkway/Suite 209, Redwood City, CA
94065; 800/447-2226



(a)



(b)



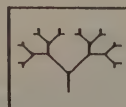
(c)



(d)



(e)



(f)

FIGURE 2 Breeding from a random starting pattern (a), random lines (b), lines of mathematical families (c), mirror algorithms (d), letting genes determine the presence or absence of mirrors in various planes of symmetry (e), and "archetypal" body form generated by *Blind Watchmaker's* artificial embryology (f).

Theory of Self-Reproducing Automata

If Chris Langton is a-life's midwife, Von Neumann is surely its father. In this sometimes very technical volume, the legendary mathematician virtually (pun intended) invents cellular automata, outlines how a CA might reproduce, and opens speculation on how a "living" thing might occur within a computer! It's out of print and hard to find outside of libraries. Other good books about cellular automata include Burks's seminal but difficult *Essays in Cellular Automata* (also out of print); William Poundstone's *The Recursive Universe*, an entire book geared to lay readers, about Conway's LIFE program, relating these most bewitching cellular automata to modern physics; Rudy Rucker's entertaining, mind-blown essay included in the documentation of his computer program CA LAB (Autodesk); and, for those who can handle a somewhat technical treatment, Stephen

What Is Life?

Surprisingly, there has been very little discussion posed in this book's title. Schrodinger, a father of quantum physics, anticipates some of the DNA discoveries to be made a decade after the series of lectures reprinted here, and frames some of the big issues that a-life might deal with one day.

What Is Life?

Erwin Schrodinger, 1968

\$14.95 (\$16.95 postpaid) from Cambridge University Press, 110 Midland Avenue, Port Chester, NY 10573; 914/937-9600 (or Whole Earth Access)

It is simply a fact of observation that the guiding principle in every cell is embodied in a single atomic association existing only in one copy (or sometimes two) — and a fact of observation that it results in producing events which are a paragon of orderliness. Whether we find it astonishing or whether we find it quite plausible that a small but highly organized group of atoms be capable of acting in this manner, the situation is unprecedented, it is unknown anywhere else except in living matter. The physicist and the chemist, investigating inanimate matter, have never witnessed phenomena which they had to interpret this way. The case did not arise and so our theory does not cover it — our beautiful statistical theory of which we were so justly proud because it allowed us to look behind the curtain, to watch the magnificent order of exact physical law coming forth from atomic and molecular disorder; because it revealed that the most important, the most general, the all-embracing law of entropy increase could be understood without a special assumption *ad hoc*, for it is nothing but molecular disorder itself.

Wolfram's *Theories and Applications of Cellular Automata*, the best work on the subject since Von Neumann's. Finally, a new biography, *John Von Neumann and the Origins of Computing*, gives an excellent — and readable — summary of von Neumann's automata theory.

Draw up a list of unambiguously defined elementary parts. Imagine that there is a practically unlimited supply of these parts floating around in a large container. One can then imagine an automaton functioning in the following manner: It also is floating around in this medium; its essential activity is to pick up parts and put them together, or, if aggregates of parts are found, to take them apart.

—*Theory of Self-Reproducing Automata*

John Von Neumann and the Origins of Modern Computing

William Aspray, 1990; 600 pp.

\$35 (\$38 postpaid) from The MIT Press, 55 Hayward Street, Cambridge, MA 02142; 800/356-0343 (or Whole Earth Access)

The Recursive Universe

William Poundstone, 1985; 256 pp.

\$11.95 (\$13.95 postpaid) from Contemporary Books/Customer Service, 180 N. Michigan Avenue, Chicago, IL 60601; 312/782-9181

Theory and Applications of Cellular Automata

Stephen Wolfram, 1986; 560 pp.

\$25 (\$28.50 postpaid) from World Scientific Publishing Co., 687 Hartwell Street, Teaneck, NJ 07666; 800/227-7562



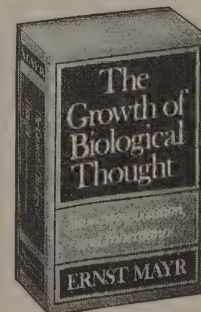
$w_2 = -0.34$ -0.28 -0.24 -0.20

Patterns produced with the activator-inhibitor model. The activation area has a radius of 2.30, and the inhibition area has an outer radius of 6.01. The activation field value w_1 is + 1.0, and the inhibition field value w_2 is varied as indicated in the four examples. As inhibition is decreased (left to right), the spot pattern connects up into a pattern of stripes. Each panel is 25 x 100 in the arbitrary grid units.

The Growth of Biological Thought

This thick tome is a definitive history of biological studies; it clearly and painstakingly conveys how people have regarded life throughout the centuries, and the discoveries that forced changes in that view. It not only gives an extremely solid footing in biology to a lay reader, but sets the stage for what might be the next revolution in the field: the development of artificial life.

It is now clear that a new philosophy of biology is needed. This will include and combine the cybernetic-functional-organizational ideas of functional biology with the populational-historical program-uniqueness-adaptedness concepts of evolutionary biology. Although obvious in its essential outlines, this new philosophy of biology is, at the present time, more of a manifesto of something to be achieved than the statement of a mature conceptual system.



The Growth of Biological Thought

Ernst Mayr, 1982; 974 pp.

\$16.50 (\$18.50 postpaid) from Harvard University Press/Customer Service, 99 Garden Street, Cambridge, MA 02138; 617/495-2600 (or Whole Earth Access)

The Artificial Intelligence Debate

Artificial life is placed oddly in relation to artificial intelligence. It's not exactly an alternative, and it's not at all a subset. Yet many a-lifers think that their field will fare better than that of "classical AI" (whose results are acknowledged to be disappointing). Some of their reasons why they — and others in the loosely defined "connectionist movement" — think they have an edge over their predecessors are discussed in this bound version of a lively debate that occurred in the pages of a journal called *Daedalus*.

Although questions of capacity and scope are necessary in defining the magnitude of the task of constructing an emergent intelligence, the key question is one of understanding. While it is possible that we will be able to recreate the emergent substrate of intelligence without fully understanding the details of how it works, it seems likely that we would at least need to understand some of its principles. There are at least

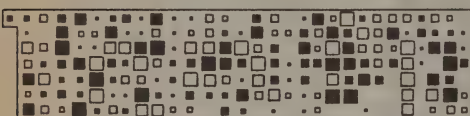


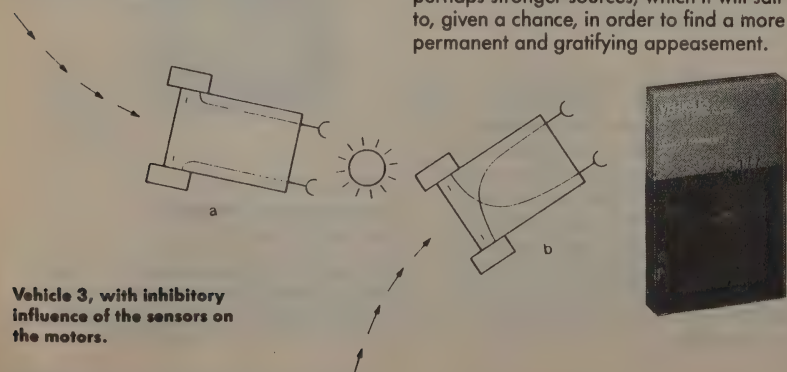
Fig. 14. Receptive field of a hidden unit in NETalk. It comprises 203 S-units plus 1 h-unit to set its threshold. The S-units are arranged in seven groups of 29. Twenty-six of the 29 S-units encode letters of the alphabet, and 3 of them encode punctuation and spaces. Thus, each hidden unit responds to a string of seven characters in a specific fashion defined by its weights. The area of each square is proportional to the weight: open squares correspond to positive weights, filled squares to negative ones. (Redrawn from T. J. Sejnowski and C. R. Rosenberg, *NETalk, A Parallel Network that Learns to Read Aloud*, Technical Report JHU/ECS-86/01 [Baltimore, Md.: Johns Hopkins University, Electrical Engineering and Computer Science, 1986].)

Vehicles

People working in robotics are often amazed at how extremely simple rules of motion can create the illusion that their creations are "alive." Braitenberg takes the reader by the hand on a guided tour of his zoo of "vehicles," incrementally augmented by a series of no-brainer features. (MIT Press also sells software that allows you to run *Vehicles* inside a Macintosh.) The behavior is not only complex, it's at times heartrending. Then Braitenberg, director of the Max Planck Institute of Biological Cybernetics (if that

place didn't exist Lem would have to create it) provides a long afterword which draws detailed analogies between his creations and real-life critters.

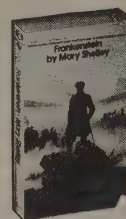
You will have no difficulty giving names to this sort of behavior. These vehicles LIKE the source, you will say, but in different ways. Vehicle 3a LOVES it in a permanent way, staying close by in quiet admiration from the time it spots the source to all future time. Vehicle 3b, on the other hand, is an EXPLORER. It likes the nearby source all right, but keeps an eye open for other, perhaps stronger sources, which it will sail to, given a chance, in order to find a more permanent and gratifying appeasement.



Vehicle 3, with inhibitory influence of the sensors on the motors.

Frankenstein

Dayne Farmer, head of the Los Alamos group studying a-life, says the movie version of *Frankenstein* is an albatross around the neck of artificial life — it evokes images of tetragamous beings unleashed upon the innocent population. On the other hand, the original 1818 Shelley novel has a different lesson: *Frankenstein* is not the monster, but a doctor who recklessly creates a living being. Tragedy develops from his failure to deal responsibly with his creation. I find it encouraging that discussion of ethics and hazards abounds in a-life circles, even in the field's infancy; the misuse of a-life, neglectful or otherwise, could yield disastrous results, and this thin book is regarded as potential tonic to that abuse.



Frankenstein

Mary Shelley

\$1.95 (\$4.45 postpaid) from Bantam Books/Direct Sales, 414 E. Golf Road, Des Plaines, IL 60016; 800/223-6834 (or Whole Earth Access)

I doubted at first whether I should attempt the creation of a being like myself, or one of simpler organization; but my imagination was much too exalted by my first success to permit me to doubt of my ability to give life to an animal as complex and wonderful as man. The materials at present within my command hardly appeared adequate to so arduous an undertaking, but I doubted not that I should ultimately succeed. I prepared myself for a multitude of reverses; my operations might be incessantly baffled, and at last my work be imperfect, yet when I considered the improvement which every day takes place in science and mechanics, I was encouraged to hope my present attempts would at least lay the foundations of future success.

Vehicles

(Experiments in Synthetic Psychology) Valentino Braitenberg, 1986; 152 pp.

\$8.95 (\$11.95 postpaid)

Vehicles

(A Program Based on the Book) Horst Grelich and Valentino Braitenberg. For Macintosh; 512K required.

\$25 (\$28 postpaid)

Both from MIT Press, 55 Hayward Street, Cambridge, MA 02142; 800/356-0343 (or Whole Earth Access)



State of Grace, by René Magritte (1959). —Gödel, Escher, Bach

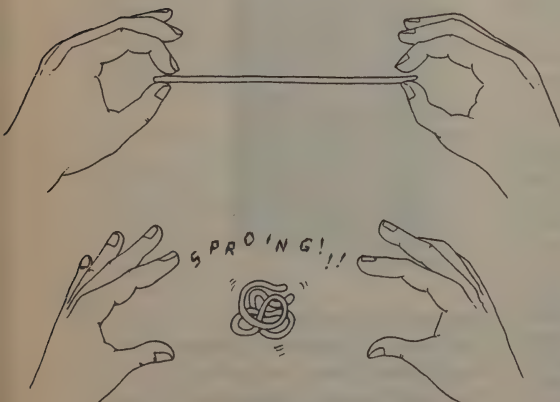
Gödel, Escher, Bach • Metamagical Themas

A landmark work which effectively — and entertainingly — outlines a lot of the problems and promises of creating, or emerging, something new out of the mathematical-computing realm. Though a lot of it is AI as compared to a-life, I was startled upon rereading it to see how much actual biology Hofstadter discusses here. After all the talk of Turing Machines and Gödel's Theorem, the main event here is really a mind-wrestling match with the issues of biology and information theory. After *GEB* you might want to check out Hofstadter's follow-up, *Metamagical Themas*, a collection of columns which amplify the arguments in the original.

Bonus: both books have wonderful annotated bibliographies.

One might regard DNA as a big, fat, aristocratic, lazy, cigar-smoking slob of a molecule. It never does anything. It is the ultimate "lump" of the cell. It merely issues orders, never condescending to do anything itself, quite like a queen bee. How did it get such a cushy position?

—Metamagical Themas



If you stretch a protein straight (a), and then let it go, it will snap right back into its natural curled-up form (b), exhibiting its characteristic tertiary structure.

—Metamagical Themas

Gödel, Escher, Bach

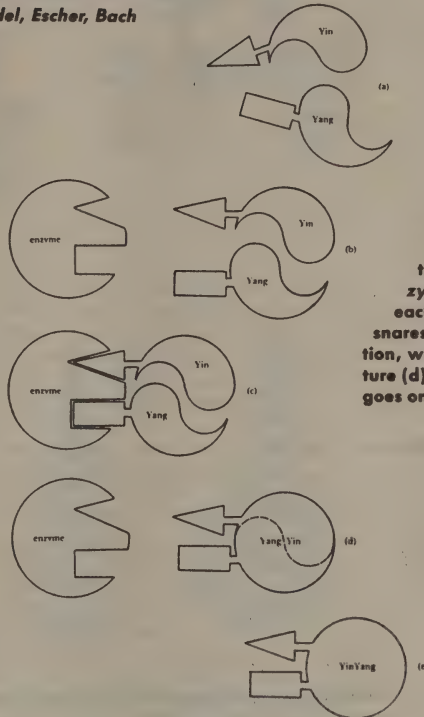
Douglas Hofstadter, 1989; 777 pp.

\$16.95 (\$18.95 postpaid) from Random House, Inc./Order Dept., 400 Hahn Road, Westminster, MD 21157; 800/726-0600 (or Whole Earth Access)

Metamagical Themas

Douglas R. Hofstadter, 1986; 852 pp.

\$17.95 (\$20.45 postpaid) from Bantam Books/Direct Sales, 414 E. Golf Road, Des Plaines, IL 60016; 800/223-6834 (or Whole Earth Access)



(Left) The saga of Yin and Yang, two random molecules inside the cytoplasm of a cell. In (a), each drifts alone, unaware of the other. In (b), they approach an enzyme. In (c), the enzyme recognizes that each of them fits one of its active sites, and snares them. Then it performs its catalytic function, which in this case unites them into one structure (d). Finally, in (e), the new YinYang unit goes on its merry way in the cytoplasm.

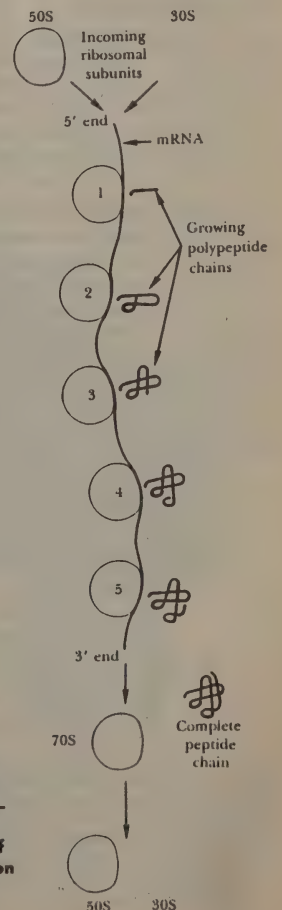
—Metamagical Themas

This is reminiscent of another curious type of self-reproduction: via photocopy machine. It might be claimed that any written document is a self-rep because it can cause a copy of itself to be printed when it is placed in a photocopy machine and the appropriate button is pushed. But somehow this violates our notion of self-reproduction; the piece of paper is not consulted at all, and is therefore not directing its own reproduction. Again, everything is in the processor. Before we call something a self-rep, we want to have the feeling that, to the maximum extent possible, it explicitly contains the directions for copying itself.

—Gödel, Escher, Bach

(Right) A polyribosome. A single strand of mRNA passes through one ribosome after another, like one tape passing through several tape recorders in a row. The result is a set of growing proteins in various stages of completion: the analogue to a musical canon produced by the staggered tape recorders.

—Gödel, Escher, Bach



The Algorithmic Beauty of Plants

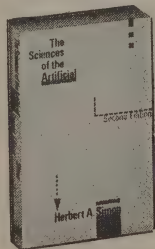
When the late mathematician Aristid Lindenmayer developed a linguistic grammar called L-Systems, he didn't immediately realize that one of its benefits was the ability to generate "plants" — or at least visual constructs that bore remarkable resemblance to various flora. But they did, and just how that happens sheds precious light on the way nature might organize itself. This book, loaded with formulas that might boggle a lay reader, is really directed to those interested in constructing "virtual laboratories," computer greenhouses photosynthesized by L-Systems. But anyone can appreciate its insights and especially the dazzling illustrations.

In nature, developmental processes are often masked by other phenomena. For example, the growth of leaves can be difficult to capture because of large changes in leaf positions during the day. Similarly, positions of tree branches may be affected by wind. Computer animation makes it possible to abstract from these distracting effects.

The Sciences of the Artificial

Simon is one of the reigning minds on artificial intelligence. He provides some concise thinking on the differences between synthetic and natural systems.

There are two related ways in which simulation can provide new knowledge — one of them obvious, the other perhaps a bit subtle. The obvious point is that even when we have correct premises, it may be very difficult to discover what they imply. All correct reasoning is a grand system of tautologies, but only God can make direct use of that fact. The rest of us must painstakingly and fallibly tease out the consequences of our assumptions.



The Sciences of the Artificial
Herbert A. Simon, 1981; 247 pp.

\$9.95 (\$12.95 postpaid) from The MIT Press, 55 Hayward Street, Cambridge, MA 02142; 800/356-0343 (or Whole Earth Access)

The Algorithmic Beauty of Plants

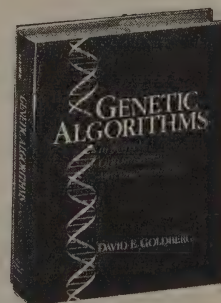
Przemyslaw Prusinkiewicz and Aristid Lindenmayer, 1990; 228 pp.

\$39.95 (\$42.45 postpaid) from Springer-Verlag New York, Inc., 44 Hartz Way, Secaucus, NJ 07096; 201/348-4033



Genetic Algorithms in Search Optimization and Machine Learning

One of the most underrated mathematical accomplishments of late has been the work begun by John E. Holland on what is called the genetic algorithm. Put simply, this is a manner by which the powers of nature, specifically evolution, can be applied to practical problems, utilizing the power of the computer. Much of Holland's pioneering work is rather technical — the intrepid can tackle his *Adaptation in Natural and Artificial Systems* (out of print) — so the best starting point is this clearly written textbook.

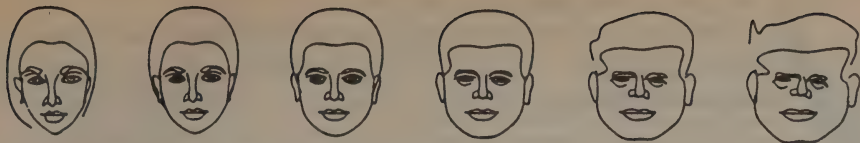


Exchanging of notions to form new ideas is appealing intuitively, if we think in terms of the process of innovation. What is an innovative idea? As Hadamard suggests, most often it is a juxtaposition of things that have worked well in the past. In much the same way, reproduction and crossover combine to search potentially pregnant new ideas.

Genetic Algorithms in Search Optimization and Machine Learning

David E. Goldberg, 1989; 412 pp.

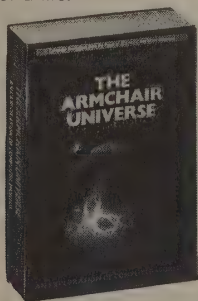
\$43.25 (\$46.75 postpaid) from Addison-Wesley Publishing Co./Order Dept., 1 Jacob Way, Reading, MA 01867; 800/447-2226



Elizabeth Taylor (as Cleopatra) meets former President Kennedy in face space.

The Armchair Universe

Kee Dewdney is the unofficial zookeeper of artificial life. When he wrote his "Computer Recreation" column for *Scientific American*, the subject was often some new species of critter who lived inside a PC or workstation in such weird realms as the world of *Wa-Tor*. It was Dewdney who introduced the notorious *Core Wars*, in which code-creatures fought to silicon turn inside the computer's memory. And it is here you can read about 'em, as well as the evolving *Flibs*, the extinction of the *Tribolites*, and other budding beasts of a-life.



The Armchair Universe

A. K. Dewdney, 1988; 330 pp.

\$13.95 (\$16.45 postpaid) from W. H. Freeman and Co., 4419 W. 1980 S., Salt Lake City, UT 84104; 801/973-4660 (or Whole Earth Access)

It has been said that biology is destiny. Magi and I are tempted to declare that ecology is geometry, as least as far as the planet *Wa-Tor* is concerned. The ultimate fate of a given scenario does not seem to depend on the initial random distribution of a specified number of sharks and fish. . . . Instead the likelihood of a population crash appears to follow closely the fish-shark geometry that manifests itself on our screens: the more highly organized and localized either population becomes, the likelier it is that the ecology is doomed.

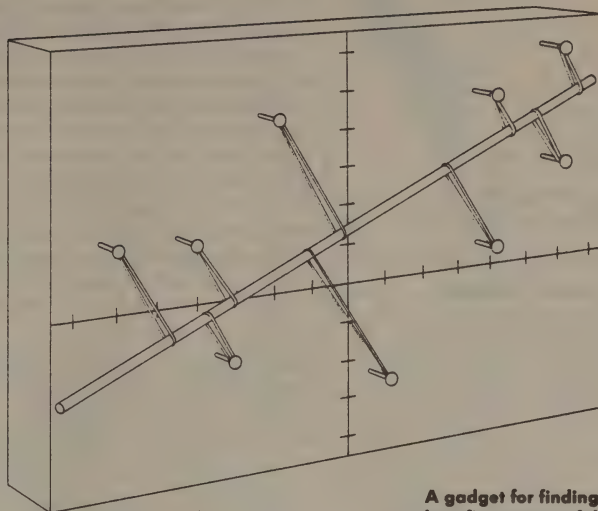
Music Animation Machine

An elegantly clever way to visualize complex music is displayed on this video. Others have attempted such. This tape is the first time I felt I've truly seen music. Watching a Bach fugue is a trip. Probably useful, too. —Kevin Kelly

Music Animation Machine

VHS, color, 40 minutes.

\$25 postpaid from P. O. Box 13622, Berkeley, CA 94701; 415/548-9240



A gadget for finding the line that best fits a series of data points.

[*Core War*] battle programs of the future will perhaps be longer than today's winners but orders of magnitude more robust. They will gather intelligence, lay false trails, and strike at their opponents suddenly and with determination.

A Short Course on Computer Viruses

Ask artificial life researchers what's the closest thing we have to a-life, and they invariably reply, "computer viruses." The more one understands about the way viruses work — biological and computational — the more baffling is the question, "Are computer viruses less 'alive' than natural viruses?" Fred Cohen introduced the world to computer viruses (as part of his doctoral thesis) and still is perhaps the leading researcher in the field. This book, which Cohen self-published to accompany a course he teaches in the subject, is a fine primer. For those wanting more technical grounding, and some specific consideration of a-life issues, Cohen has also self-published his thesis, "Computer Viruses."

Finally, the National Security Agency in the United States called me into a meeting one day and said, "We don't think it's appropriate to reveal the names of systems that are vulnerable to an attack until the manufacturers have the chance to eliminate the vulnerability." That means I can never, ever tell you that I've performed experiments on Unix, VMS, MVS, TSS, VM, DOS, and many other operating systems. So, in keeping with their request, I won't tell you that. —A Short Course

The essence of a life form is not simply the environment that supports life, nor simply

a form which, given the proper environment, will live. The essence of a living system is in the coupling of form with environment. The environment is the context, and the form is the content. If we consider them together, we consider the nature of life. —Computer Viruses



A Short Course on Computer Viruses

Dr. Frederick B. Cohen, 1990; 196 pp.

\$48 postpaid*

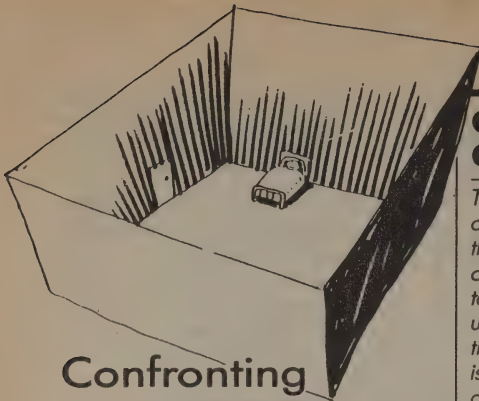
Computer Viruses

Frederick Cohen, 1985; 114 pp.

\$48 postpaid*

Both from ASP Press, P. O. Box 81270, Pittsburgh, PA 15217; 412/422-4134

* \$36 postpaid to WER readers who enclose a copy of this review. ■



Confronting CANCER

Cancer and Hope

This book will be a friend to anyone experiencing the turmoil and despair that accompanies a serious illness. Solid and free of psychobabble, this guide outlines a powerful course of self-help. It is simply written to counter effects of depression, medication, and lethargy. The metaphor of a traveler on a sea voyage is labored at times, but it will enable the patient to view illness in a productive way. As I read, I often thought the guidance was something a wise grandmother might offer. My grandmother isn't around, so I'm glad to find this book.

—Nancy A. Pietrafesa

Go for a walk. Find a smooth rock. Look at it carefully and form an image of it in your mind. This smooth stone feels nice to your fingers. It's cool and hard. It's strong. No matter how hard you press on it, it does not give way. Even something many times its size — like a tree — can fall on it and it will not crack or give way.

Picture your inner strength as this small, smooth stone. No matter what burdens you carry, your strength does not give way. You can seek out your secret strength whenever you need it. Carry your stone with you when you face a situation that demands your strength.

Cancer and Hope

Judith G. Garrison and Scott Sheperd, 1989; 185 pp.

\$8.95 (\$10.95 postpaid) from Comp-Care Publishers, 2415 Annapolis Lane, Minneapolis, MN 55441; 800/328-3330 (or Whole Earth Access)

Coping With Chemotherapy

Nancy Bruning, 1985; 237 pp.

\$4.95 (\$6.95 postpaid) from Random House/Order Dept., 400 Hahn Road, Westminster, MD 21157; 800/733-3000 (or Whole Earth Access)

Triumph

(Getting Back to Normal When You Have Cancer)

Marion Morra and Eve Potts, 1990; 297 pp.

\$9.95 (\$10.95 postpaid) from Avon Books, P. O. Box 767, Dresden, TN 38225; 800/223-0690 (or Whole Earth Access)

Coping With Chemotherapy

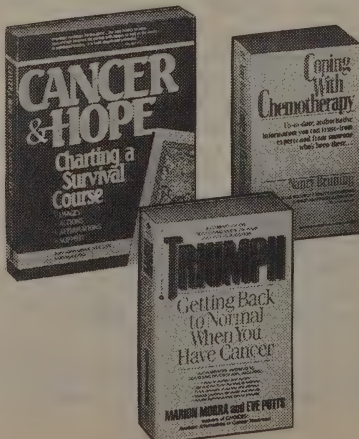
This book is a staunch resource for someone considering or undergoing chemotherapy. It is a personable and exhaustive compendium that will enable the reader to assess therapeutic alternatives and understand related physical and emotional effects. Some technical information is outdated, but the book shines with advice on how to get through this experience with dignity and self-respect. A friend who used this book recently called it "as indispensable to the cancer patient as Dr. Spock is to a new mother."

—Nancy A. Pietrafesa

Chemotherapy is the only scientifically proven method we have that can reach virtually every part of the body to seek and destroy cancer cells that surgery and radiation can't reach, and that even sensitive instruments can't see. It is able to penetrate every nook and cranny because it circulates throughout the body just the way the cancer cells do by flowing through the bloodstream. Once the drug meets up with a cancer cell, it wreaks havoc in a number of ways, which are only partly understood.

The ideal is to find a crackerjack oncologist who really knows his stuff *and* who treats you like a human being. It is advisable to ask yourself whether your doctor has the unique combination of good credentials, a compatible personality and approach, and the willingness to answer questions. Is he or she a doctor you will be able to stand seeing every week, or every two weeks, or every month for the duration of your therapy? A doctor you will be able to forgive for making you miserable with such regularity? Good credentials are no guarantee that the doctor will treat the person as well as the disease, that you will get the best treatment and overall care.

Chemicals irritate and inflame delicate tissues and they upset the chemical balance of the vagina. Avoid feminine hygiene sprays, commercial douches, and deodorized tampons and napkins.



Triumph

These authors wrote a book (Choices) that was my bible on clinical resources and alternatives when I was sick in the early eighties. Their new book is just as packed with information, but angled more toward the "softer" therapies (nutrition, the healing mind, family) and the road to recovery. The question-and-answer format is reassuring and readable. This is the first book I recommended to a friend of mine just diagnosed with lymphoma.

—Paul S. Davis

I have a hard time getting myself relaxed enough to do visualization. Are there any techniques for making it easier?

Some people find, when they first start, it is difficult to learn the techniques and reach relaxation. You may find it helpful to use a tape recorder, with a relaxation tape you've bought or made yourself. Making your own tape can be helpful. You may want to enlist the aid of a friend to help you investigate the technique. It's important, in making your own tape, to go at your own speed. Give yourself images that you enjoy, talking slowly and in a relaxed manner. Leave yourself time on the tape to enjoy each stage. Though some experts feel it is better to learn to be free of the tape, if it works for you, this is a good way of teaching yourself the techniques so they become a part of you. If you feel you wish to open your eyes, tell yourself first that you are relaxed and it will be hard to open your eyes. Then, open them, see the room you are actually in, close them again, and practice returning to the relaxed state. Repeated use of the technique will make the images more and more vivid. You can do this several times, each time telling yourself that you'll be even more relaxed when you close your eyes again. Use the tape recorder as long as you feel comfortable with it. Once you've learned the techniques, you may find that the tape is confining and that you can be more creative and relaxed without it. Relaxation becomes easier each time you practice.

Beauty and Cancer

A practical, upbeat guide to maintaining physical appearance and self-esteem during the treatment phase of cancer — radiation, chemotherapy and/or surgery. Better and more extensive information on diet, attitude and exercise can be found elsewhere, but this book is unique in its thorough discussion of skin care, makeup, hair alternatives and clothing to assist the recovery process. The information will be useful to cancer patients as well as health and beauty professionals.

—Nancy A. Pietrafesa

The first step to get reimbursed for a wig is to have your physician write a prescription

Vitamins Against Cancer

There is a lot of confusion about what (if anything) dosing with the right vitamins will do to help you avoid, or combat, cancer. This short book presents the best plain-spoken summary I've found of what the research shows. It gives some practical guidelines for diet and supplemental dosages which are right in line with what I'd distilled out of hours of reading studies and reports when I was sick. Best of all, and unlike many books on this subject, it provides a list of major studies on vitamins, nutrition and cancer, and a separate bibliography of further readings.

—Paul S. Davis

How to store vitamins

Vitamin A

Crystal forms of retinol and retinoic may be stored in the cold, away from light, for several months. Other forms of vitamin A can also be stored in the cold.

Vitamin C

Vitamin C should not be stored in solution form because it is easily destroyed. Crystal or tablet forms of vitamin C can be stored at room temperature, away from light, for several months.

Vitamin E

Alpha-tocopherol can be stored in the cold, away from light, whereas vitamin E acetate and vitamin E succinate can be stored at room temperature or in the cold for several months.

Vitamins Against Cancer

Kedar N. Prasad, Ph.D., 1989; 96 pp.

\$6.95 (\$8.95 postpaid) from Inner Traditions, American International Distribution Corp., 64 Depot Road, Colchester, VT 05446; 800/445-6638

My ABC Book of Cancer

Shannin Chamberlain, 1990; 40 pp.

\$6.95 (\$8 postpaid) from Synergistic Press, 3965 Sacramento Street, San Francisco, CA 94118 (or Whole Earth Access)

for a "wig prosthesis". It is necessary for the word "prosthesis" to be on the prescription and on the sales receipt so the insurance company knows that this is not for cosmetic purposes. Many insurance companies still need to be educated in how the loss of a woman's hair interferes with her social and psychological well being.

To recreate a natural appearing brow you'll need two eyebrow pencils — one matching the dark value in your hair and the second matching the medium value in your hair. If possible, buy these pencils before you lose your hair so you're not relying on your memory. Saving portions of your hair or a good color photograph of you will help the cosmetic clerk help you select the correct shades.

Winning the Chemo Battle

In this moving personal story, the author wisely chronicles her experience in the context of her family. Her sensitivity to the responses of those around her will make this meaningful reading for the cancer patient and for those who love her.

—Nancy A. Pietrafesa

It was 11 p.m., six hours after my first hit. All of a sudden, VA VA VA VOOM! The chemical takeover: my feet hit the floor, I bounded into the bathroom, flipped up the seat just in time to explode like a time bomb into the toilet. . . . I threw up, retched, vomited, heaved, and retched some more and just couldn't stop. My body felt bloated in every direction, my skin stretched and punctured as if I'd thrown up through each pore in my body. I couldn't stop. Every grain of rice, every sip of water, that horrendous won-ton taste made me shudder to my soul, and I got sicker and sicker as I knelt there. Finally, staggering up, I reached for the green plastic basin that I'd brought home from Sloan-Kettering surgery, to take to my room. I glanced at the mirror on my way out and saw a red, puffy face with a rash just as if I had the measles. I staggered back to bed.

Winning the Chemo Battle

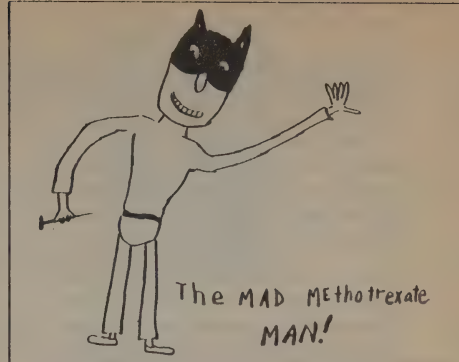
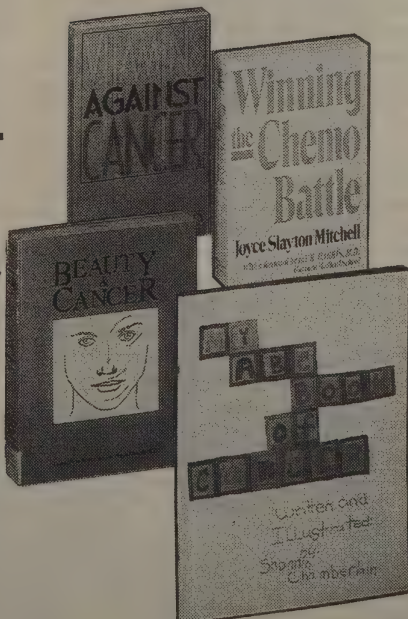
Joyce S. Mitchell, 1991; 221 pp.

\$9.95 postpaid from W. W. Norton & Co./Order Dept., 800 Keystone Industrial Park, Scranton, PA 18512; 800/233-4830 (or Whole Earth Access)

Beauty and Cancer

Diane D. Noyes and Peggy Mellody, 1988; 163 pp.

\$12.95 (\$14.45 postpaid) from Beauty and Cancer Project, 12805 NE 107th Place, Kirkland, WA 98033; 206/827-6575



My ABC Book of Cancer

"L is for love, life, laugh. All of which everyone should have a chance at," writes Michigan sixth-grader Shannin Chamberlain as she shares in poignant words and pictures an outlook that is both candid and courageous. Diagnosed with rhabdomyosarcoma early in 1989, Shannin created this manuscript during her first visit to a camp for children with cancer. She provides us with an inspiring example of wisdom in the face of adversity.

As the parent of a former leukemia patient I would recommend this book to anyone who has a family member, friend or student dealing with childhood cancer. This would be a most helpful book to share with children facing their own illness or that of a friend. The publisher has added a supplemental text, a glossary, an excellent bibliography of books and pamphlets (many available free or at low cost), and an up-to-date resource list of self-help groups, agencies and further sources of information.

—Cathy Dezendorf

F is for Friends
Which I have alot
of, that help me
through this.

F's for the Fight that
I have, to allow me
to win.

P is for the People
that Pray for me
day and night. (and please
dont stop)

Childhood Cancer Bibliography BY BUD JOHNS

"I wish parents would teach their kids more," Shannin Chamberlain told a reporter about reactions to her cancer and the baldness resulting from chemotherapy. "All they do is stare."

That needn't be. A wealth of printed material, much of it available without charge or for a modest amount, can help adults and children of all ages understand childhood cancer. The following resources are selected from the bibliography in Shannin's *My ABC Book of Cancer*.

Three of the National Cancer Institute's free publications are good for starters. *Young People With Cancer* is a thorough and straightforward handbook for parents. *When Someone in Your Family Has Cancer* is written for young people and includes a section on emotional concerns, while *Help Yourself* has tips for (and from) teenagers with cancer. "I Have What?" is the title of the latter's first chapter.

Leukemia: The Nature of the Disease, a good booklet for learning about the most common cancer affecting children, is provided without charge by the Leukemia Society of America.

There Is a Rainbow Behind Every Dark Cloud is a heavily illustrated book written by children participating in Center for Attitudinal Healing programs for facing the life-and-death situations of their illness. *Another Look at the Rainbow* is a companion volume about children's concerns over having a sister or brother with a life-threatening illness.

Children With Cancer achieves the goal of J. Bracken (a reference librarian and mother of a child with cancer) to provide parents with a source of information about childhood cancers, their symptoms, therapies, and emotional impact.

Familiar "Peanuts" characters help make *Why, Charlie Brown, Why?* the best book for explaining cancer to the very young.

What Happened to You Happened to Me is written by childhood cancer patients to help others cope with worries and concerns. *When Your Brother or Sister Has Cancer* is also a good one.

Bestselling humor writer Erma Bombeck visited a camp for cancer kids and was moved to write *I Want to Grow Hair*, *I Want to Grow Up*, and *I Want to Go*

to Boise about their gutsy optimism and humor. (One kid asked, "Would you be happier if we cried all the time?") ■

Young People With Cancer (1988; 67 pp.); **When Someone in Your Family Has Cancer** (1990; 28 pp.); **Help Yourself** (1990; 37 pp.):

Free from National Cancer Institute/Publications Order, Office of Cancer Communications, Building 31, Room 10A 24, Bethesda, MD 20892; 800/4-CANCER.

Leukemia: The Nature of the Disease: Free from Leukemia Society of America, 733 3rd Avenue, New York, NY 10017; 212/573-8484.

There is a Rainbow Behind Every Dark Cloud (1978; 96 pp.): **\$8.95** (\$10.95 postpaid); **Another Look at the Rainbow (Straight From the Siblings):** **\$7.95** (\$9.95 postpaid).

Both from Center for Attitudinal Healing, 19 Main Street, Tiburon, CA 94920; 415/435-5022.

Children With Cancer (A Comprehensive Reference Guide for Parents) (Jeanne M. Bracken, 1988; 432 pp.): **\$10.95** (\$13.75 postpaid) from Oxford University Press/Order Dept., 2001 Evans Road, Cary, NC 27513; 800/451-7556.

Why, Charlie Brown, Why? (Charles M. Schultz, 1990; 64 pp.):

\$7.95 (\$9.45 postpaid) from Pharos Books, 1278 W. 9th Street, Cleveland, OH 44113; 800/521-6600.

What Happened to You Happened to Me (M. A. Kjosness and L. A. Rudolph, 1984; 28 pp.); **When Your Brother or Sister Has Cancer** (L. A. Rudolph and John Price, 1984; 16 pp.):

Free from local chapters of the American Cancer Society (800/ACS-2345).

I Want to Grow Hair, I Want to Grow Up, I Want to Go to Boise (Erma Bombeck, 1990; 174 pp.):

\$16.95 (\$20.45 postpaid) from Harper-Collins Publishers/Customer Fulfillment, 1000 Keystone Industrial Park, Scranton, PA 18510; 800/331-3761. Paperback available through bookstores only.

■ The onset of leukemia can mimic "cold" symptoms. There may also be fatigue, paleness, loss of weight and appetite, night sweats, bone and joint pain, fever, a recent history of repeated infections.

—*Leukemia: The Nature of the Disease*

■ When they got to school, an obnoxious-looking boy ran up and shouted, "Hey,

nice hat! Pretty cute! Does it fly? I think it needs a propellor," and he reached up and knocked the pink cap from Janice's head. Janice tried to cover her head with her hands, but it was too late. Everybody on the playground, including Linus, saw that her hair was gone.

"Hey, look at this!" the obnoxious boy shouted. "Check it out! A baldie!"

Tears filled Janice's eyes. When Linus saw this, all of the emotion that had been building up inside him came pouring out, and he shouted furiously at the obnoxious kid, "What's the matter with you? Huh? What's the matter?"

"What's the matter with me?" shouted the kid. "What's the matter with her? She's bald! She's got no hair!"

Linus grabbed the front of the bully's shirt and shook him furiously. "Janice has leukemia, cement head! That's cancer. Have you ever heard of cancer? She's been in the hospital. She's had chemotherapy to help her get better and it made her hair fall out. Does that make you happy? Would you like to go through what she's gone through? Think about it, or don't you ever think about anything?"

Linus and Janice turned to walk away. As they did, the boy picked up the cap and said very sheepishly, "I'm sorry." Then he suddenly brightened. "Hey, it really is a nice cap," he said.

—*Why, Charlie Brown, Why?*

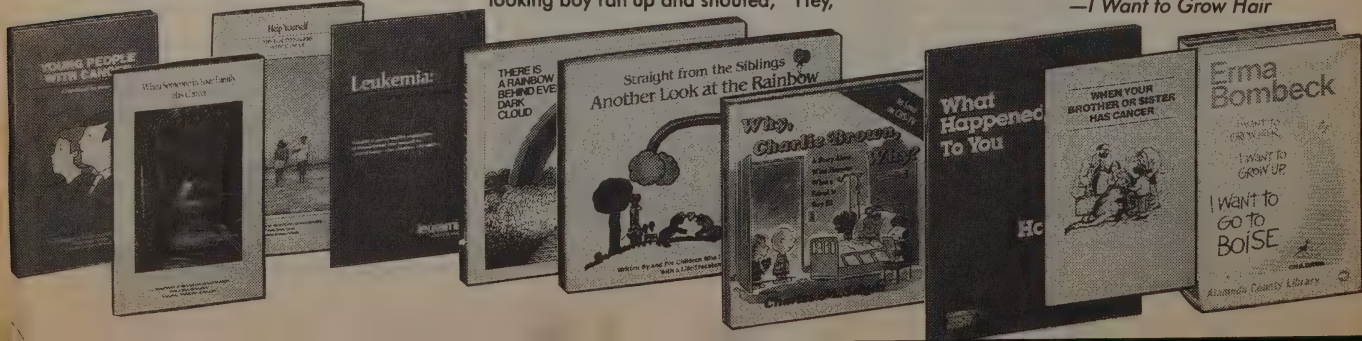
● You have to remember that you can't catch cancer from other people or from animals. It is something that just happens and no one knows why. Cancer is not like the flu or a cold, where everybody in a family can get it.

—*When Your Brother or Sister Has Cancer*

● [Kara DiGiovanna] put all of her feelings into her poetry . . .

On the Twelfth Day of Cancer my doctor gave to me,
Twelve months of remission,
Eleven frustrated doctors,
Ten Ewing's tumors,
Nine prosthetic limbs,
Eight bald children,
Seven pairs of crutches,
Six amputees,
Five joking nurses,
Four fuzzy wigs,
Three blood tests,
Two rounds of chemo
And a big needle for my arm.

—*I Want to Grow Hair*



Fighting Toxics

The National Toxics Campaign has put its tactics, strategy, and experience all together into one very useful book. The record from two decades of battles is clear — laws alone are not enough. Regulating pollution is like chasing the horse after it has left the barn. Aim instead for pollution prevention.

To be effective, this requires citizen action and community involvement. The grass-roots democratic techniques that underlie this book's step-by-step information are every bit as important as ending pollution. Imagine this task without them and you begin to appreciate the task ahead of people in places like Japan or Romania. No one has it easy when it comes to toxic pollution, but the right tools can make a big difference. —Richard Nilsen

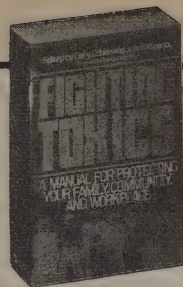
Part of the solution to the toxics crisis is changing the power relationships between people, the polluters, and the government. Too many toxics decisions in the past were made exclusively by the companies responsible for the pollution. Then, starting in the early 1970s, government began to regulate certain aspects of toxic pollution. Only rarely have the victims of toxic contamination been involved in decisions affecting their health and safety. In order to win protection against toxic hazards, citizens must gain power — through direct organizing as well as legislative change — to ensure that they are at the bargaining table when cleanup decisions are being made.

The 1985 Trade Union Report on Bhopal, an international mission to study the causes and effects of the catastrophic gas leak, stated: "None of the factors that caused or contributed to the Bhopal accident were unique to the Union Carbide plant in Bhopal, India. . . . These conditions were not

the inevitable result of technological progress, but discrete and well-recognized problems that could have been controlled."

At least 2,500 people died that night (some suggest a much higher toll), and evidence of the continuing tragedy is beginning to come to light:

- 100,000 people have been permanently injured.
- Fifteen percent of the 1,400 families surveyed in the devastated neighborhoods have psychiatric problems.
- People in Bhopal continue to die from their exposure at the rate of about one per day. Despite the rhetoric of Union Carbide, it appears that there are long-term health effects from exposure to the chemical released at the plant.
- Children born to gas-injured mothers



have been seriously affected: Stillbirths and infant deaths are two to four times the national average.

Fighting Toxics

Gary Cohen and John O'Connor, Editors. 1990; 346 pp.

\$19.95 (\$22.95 postpaid) from Island Press, Box 7, Covelo, CA 95428; 800/828-1302 (or Whole Earth Access)

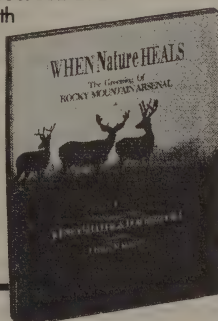
When Nature Heals

Rocky Mountain Arsenal is a former chemical weapons- and pesticide-manufacturing facility located within sight of Denver's highrise skyline. For reasons of safety, the factories were situated in the center of a 27-square-mile buffer zone.

When Nature Heals

(The Greening of Rocky Mountain Arsenal) Wendy Shattil, Bob Rozinski and Chris Madson, 1990; 80 pp.

\$14.95 (\$16.95 postpaid) from Roberts Rinehart Inc., P. O. Box 666, Niwot, CO 80544-0666; 303/652-2921 (or Whole Earth Access)



An abandoned barracks provides a convenient perch site for a wintering golden eagle.



While decontamination work proceeds on what is one of the most polluted sites on the planet, wildlife has slipped back into the surrounding open space. This photo essay documents the species that have come to stay or to visit while on migration. Because all of this is happening at a place where human use was dedicated to death, it is a striking example of natural restoration. —Richard Nilsen

Weeds: Control Without Poisons

Charles Walters Jr. is the publisher of *Aeres U.S.A.*, one of the oldest voices of the alternative-agriculture movement, and a keeper of that body of science jettisoned by the mainstream after World War II, when it was replaced by chemical fertilizers, pesticides and herbicides. This is much more than just a book about weeds. It is written with a point of view rooted strongly in the soils of the Midwest, one that makes no obeisance to either coast, and treats with suspicion any orthodoxy, whether it is coming from the U.S. Department of Agriculture, the Federal Reserve Bank, or the American Medical Association. It is another vestigial thread of midwestern populism.

The book also serves as an introduction to many of the pioneers of alternative

agriculture, such as William Albrecht, Philip Callahan, and Andre Voisin, whose work Walters builds on and readily acknowledges. Weeds are teachers, the lessons are about imbalances in soil fertility, and the key to their removal involves more than just linear thinking. Included are nontoxic strategies for dealing with one hundred specific weed species.

—Richard Nilsen

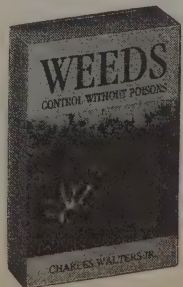
Two systems of weed control are before the world. One looks to annihilation of species and varieties with killer technology. The other suggests a natural balance, with energized crops protecting themselves against uneconomic weed competition. One accepts a byproduct of instant death, lingering illness and a cancerous legacy for the human, animal and plant popula-

tion. The other seeks to enforce weed control before the fact of competition and costly crop loss without the obscene presence of toxic chemistry. One system delivers to farmers pauperism, ignorance, depopulation and barbarism. The other increases wealth, intelligence and civilization.

Weeds (Control Without Poisons)

Charles Walters Jr., 1991; 320 pp.

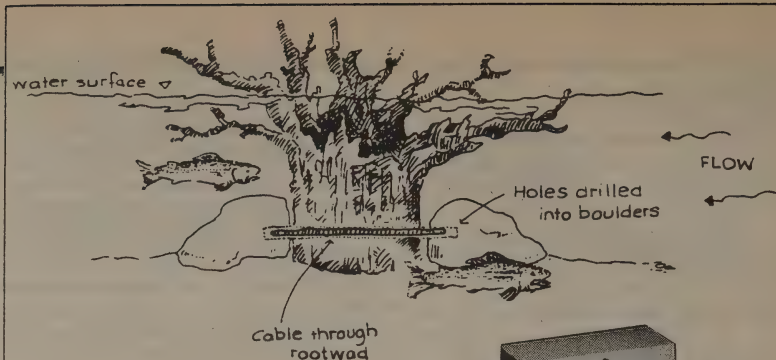
\$17 (\$18.70 postpaid) from Acres U.S.A., P. O. Box 9547, Kansas City, MO 64133



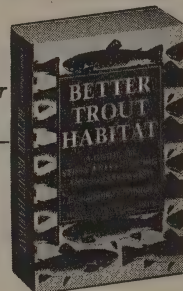
Better Trout Habitat

Here is an excellent example of making a specialized body of knowledge accessible to a wider audience — in this case, trout fishermen. Stream-restoration techniques are still evolving, and this book demonstrates plenty of them, but it also takes an important step backward and argues for good watershed and riparian habitat management. It's the ounce of prevention versus the pound of cure — protect a watershed's integrity and there won't be so much expensive, piecemeal repair work to do later on. The book includes 14 case studies of trout-stream restoration all around the US, busily undoing the damaging effects of grazing, mining, acid precipitation and the Army Corps of Engineers. —Richard Nilsen

The most important behavioral trait of trout and salmon is territoriality. The salmonid's territorial urge is so strong that the fry of Atlantic salmon and brown trout, for instance, move to establish territories within one to four days after emergence



7.19 Boulder grouping. Side view of a boulder group with an attached root wad to provide cover.



Better Trout Habitat

Christopher J. Hunter, 1990; 275 pp.

\$24.95 (\$27.95 postpaid) from Island Press, Box 7, Covelo, CA 95428; 800/828-1302 (or Whole Earth Access)

from the streambed gravel.

The features trout seek when establishing territory include a good food source, cover for protection from predation, and visual isolation from other trout in the stream. Once established, trout routinely defend the spaces they use for feeding, resting, and escape from predation. Within each trout's territory are one or more dominant stations, called focal points, where an individual spends the majority of its time.

Earthpost

We're raising a generation of Nintendo twitchers who are geographically illiterate. **Earthpost** is a brand-new newspaper aimed at giving students in grades 7-12 some sense of life beyond the mall and beyond our nation's borders. Each issue is built around a theme and comes with a teacher's guide. The current issue is called "Walls and Borders" and contains a history of the passport, an explanation of how the international mail system functions, and a spread on the nations of Eastern Europe. I think this publication has a future. —Richard Nilsen

When "Bro" Coburn took up his post as a Peace Corps volunteer in 1973 in a small village called Danda in central Nepal, he found lodging with Vishnu Maya Gurung,

"It is nature and the children we must learn from and respect," Aama counsels. "They will guide human life."

an elderly widow known as "Aama," the Nepali word for "mother." Little did Bro know that years later he would be taking Aama on an unusual border-crossing — a trip across America. . . .

We rode a ferry, ate ice cream, and stopped at a supermarket where Aama took to a shopping cart like a teenager to a hotrod, and almost tipped it over onto a display. She accepted a sample of microwaved chicken from a hostess, and then dispatched us to find something in the store to buy to give in return.

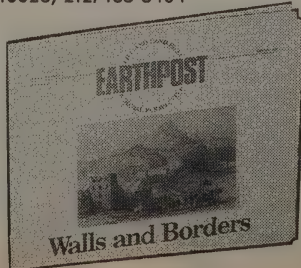
We visited my relatives' wheat farm in Dayton, Washington. Aama rode a combine that harvests and threshes in one minute what their entire village reaps in a year. Later, I came out of the kitchen to find Aama and my aunt sitting on a small couch, crying in unison. Aama was telling her how lucky she was to have healthy children, and that life is short and frustrating because just as we fall in love with something we have to leave it.

"She started it," my aunt said, sobbing.

Earthpost

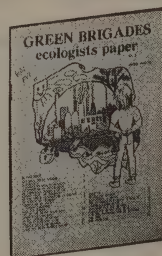
(Life and Land from a Global Perspective)
David Sassoon, Publisher

\$4/subscription (4 issues; minimum order 15 subscriptions). Teacher's guide **\$5** per subscription (4 issues) from Earthpost, 163 Amsterdam Avenue/Suite 381, New York, NY 10023; 212/465-3404



Green Brigades Ecologists Paper

Because it was ignored, denied or hidden for so long, repairing the environmental degradation of Eastern Europe will be the work of decades. This newsletter, from the chemistry club at a university in Krakow, is assessing and publicizing the damage in Poland. What we think of as routine disclosure (and bury in thick EPA reports) here often assumes the status of exposé. It's both the telling and the being allowed to tell that make the fractured English in this newsletter such an interesting window into life in contemporary Poland. —Richard Nilsen



Green Brigades Ecologists Paper

Paweł Głuszyński, Piotr Grzegorzczak, Piotr Rymarowicz, Andrzej Zwawa, Editors
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Payment: send donation to Green Brigades Ecologists Paper c/o Foundation for Environmental Contact Eastern Europe, P. O. Box 5627, NL-1007 AP Amsterdam, the Netherlands

. . . and write to the Kraków address to tell them about your donation.

BACKSCATTER

Echoes from readers back
to *Whole Earth Review*
(27 Gate Five Road,
Sausalito, California 94965)
We pay \$15 for every letter we publish.

The Bowels of Wiener

As one of the earliest researchers into the applications of electronic conferencing (NSF Comm project, Plato IV circa 1974) I am increasingly dismayed by the rhetoric issuing from supposed "cognoscenti" in the field of telecomputing.

Roger Karraker, for instance, lists the two policy options as the "Interstate Highway Model" and the "Railroad Model" for something called the National Research and Education Network. Both of these policies are championed by, what can be charitably called, "bureaucratic interests."

Bureaucratic nature is hostile to the rapid evolution of technology. Government or corporate — bureaucracy stifles innovation. No, we are *not* nearing "technical maturity" in telecomputing. I do this stuff for a living and we haven't even started tapping telecomputing technologies demonstrated in the laboratory 20 years ago on primitive electronics. The last thing telecomputing needs at this stage is bureaucratic "management." Nationalizing this effort via ARPAnet and now NSFnet has already given us a Soviet-style "information highway" complete with break-downs, censorship and access based on "who you know." Yes, "quasi-monopolies such as America's railroads in the 19th Century" are a serious problem. They, too, are bureaucracies. The correct solution to this threat is to rigorously enforce the intent of antitrust statutes, expanding their purview if necessary. In a sound-bite: Privatize and trust-bust.

Of secondary importance is the social goal of equal access to innovations in information and education technologies. As free enterprise evolution creates new telecomputing resources, equal access to them should be fostered via telecomputing vouchers. Why shouldn't the users be able to choose their own telecomputing services?

Of tertiary importance is the way we provide services to the research and development community. We should reroute all of the money going into the operation and construction of government networks to the researchers themselves and let *them* choose from among the privatized and trust-busted telecomputing services evolving out there.

Genuine scientists, as opposed to political entrepreneurs posing as scientists,

have had a belly-full of all these monstrous "R&D infrastructure initiatives" like Shuttle, Space Station, Superconducting Supercollider, Human Genome Project and their ilk. Every one of them serves bureaucratic needs, becomes a sole source of critical resources to scientists through government subsidies, claims to serve scientists and then demands political support from them in exchange for priority access. This game is damaging enough to technical and economic progress that it deserves prohibition in specific legislation.

As of this writing, two of the leading companies in high-performance computer and semiconductor technologies, Cray Computer Corporation (not Cray Research, Inc.) and Cypress Semiconductor, had not been involved in drafting or revising the NREN bill (HR656).

OK, at last the problem is capital. We've broken the big quasi-monopolies and gotten the government out of capitalizing things. So, who is going to risk their money on all these telecomputing ventures? There is a lot of capital sitting in treasury paper at high interest rates these days. But guess where it is going? To places like NASA, DoE, DARPA and NSF where people who didn't earn it in the first place are using it to capitalize technology they don't really understand. If you ask the technocrats they'll say something like, "Well, sigh, the private sector prefers the security of high interest treasury paper to venture investments." For some unfathomable reason, these people never stop to think about the effect of their programs on raising treasury yields and on the initiative of private investment in technologies that compete with government programs. Shunting those funds into vouchers and direct grants to R&D users of telecomputing services would expand the market and eliminate competition with private investments. If nothing else, we could just cut the programs.

If there is still a problem capitalizing these new services, the regulatory and tax environment should be altered to encourage investment in telecomputing service startups.

But we are left with a big problem. The telecomputing cognoscenti don't even see the above policy as an option. Oh, they'll claim to have thought about "the market approach" but in reality, their thinking is as fuzzy as that of any of the

bureaucrats they are so much in awe of. Maybe more so. At least the bureaucrats are acting in their own self-interest.

To the telecomputing cognoscenti: I beseech thee in the bowels of Wiener, think it possible you may be wrong!

James Bowery, President
Telecomputing Associates

Fuck Technology (and WER)

Technology is the most important moving force, in fact the sole moving force in all of human history. No step in terms of environmental destruction can be taken without technological advances. Technology enables human populations to expand and enables these populations to utilize more resources.

Alternative technology, sometimes called intermediate technology may not be the answer but at least it attempts to minimize environmental damage. Computers are not alternative technologies. They are energy consumptive and lock a person into the system of Earth destruction. All the information needed to save the environment exists and is available thru the medium called *common sense*. Just use less & destroy or impinge upon those forms of technology which are doing the damage.

To expect that using more complex technologies, which require greater energy inputs in the manufacturing process than previous technologies, will aid the environment, is patently impossible. To expect that common citizens will have any real say in how the technologies should be developed financed distributed & regulated is equally impossible. Business & gov't, which are one in the same, make the decisions & exercise self regulation to maintain the stability of the system.

You can't play the game & win when the dealer is dealing the cards he wants. Fuck technology. Don't play the game. Your periodical is new age shit.

Erik Lawless
Rockport, Maine

When a Man Loves a Woman

This is to correct a completely and totally incorrect statement which appears in the article "Garbage in Mind" by Sparrow, *Whole Earth Review* #70. While I realize



that the entire article is comprised of material furnished by other writers via the garbage can, I would appreciate if you publish a correction to one quotation related to a project dear to my heart from some years ago.

The song "When A Man Loves A Woman" (#33 *Rolling Stone's* Best 100 Singles) was absolutely not "improvised while drunk." In fact, it was carefully composed by Quin Ivy and myself while we were completely sober. If you care to check the productions credits for the record by Percy Sledge you will find us listed as producers (not writers). This is because Quin and I had exclusive writer contracts with another music publishing company at the time; in order to publish the song through our publishing company we gave the writers credit to the two band members who came up with the rough melody; we did however take this melody (chord changes), create the title and write all the lyrics to what went on to become a world-wide standard. We worked on the song several times over a period of a few weeks, and never were we under the influence of anything other than enthusiasm for the music.

There are many interesting stories related to "When A Man Loves A Woman," including the way Atlantic has avoided paying royalties to me or Quin Ivy as producers since 1970, but the "improvisation while drunk" is someone's fanciful notion of what makes good music press.

Marlin Greene
Seattle, Washington

Creative Architecture

Once again it was great to read a review of *Shelter* which has just been reprinted. However, I think that creative architecture is no longer the problem for those who wish creative environments. The real bottleneck nowadays can be placed at the feet of the now ubiquitous Boards of Architectural Review which seem to have jurisdiction over every podunk municipality on the planet. My solar remodel was nixed because it did not conform to community standards. I couldn't even change the shape of my roof to catch sunlight more effectively.

I live in Isla Vista, that scenic town by UCSB which is rapidly becoming a kind of yuppie slum with a University-mandated population increase of 30% due to be completed within nine years. Everywhere I look I see enforced degradation of lifestyle. Might you or your readers suggest loopholes to those of us in similar predicaments? Perhaps someone has compiled a directory of municipalities with lenient architecture standards which are more in keeping with the realities of our times. It's going to be a pain to move, but short

of barbed wire and a moat for defense and an inadequate passive solar array to reap the sun's benefits in a not-very-cost-effective way, my current abode is rapidly becoming obsolete. Would that the Board of Architectural Review hereabouts could be rendered obsolete first!

Edward T. Haas, Jr.
Goleta, California

Vandalism in a Good Cause

Does anyone besides me get a sick, creepy feeling when reading "Green Rage: Radical Environmentalism and the Unmaking of Civilization" by Christopher Manes? Is anyone else surprised to see favorable reviews of the book, including the one in "The Whole Earth Review"? Isn't it a touch disconcerting to see public cheerleading of ideologically-informed vandalism?

Well, an advocate might say, crimes against property aren't really crimes at all. This is vandalism in a good cause, not the type of violence that characterizes real terrorism. This is the type of violence you can be proud of. As the book says, ecotage "is not only ethical, but also fun!" Yes, it is true that lawbreaking probably inspires further lawbreaking. So what?

Manes admits that situations where ecotagers may injure others are more troublesome, but he never repudiates such violence or explains why the prospect is disturbing. Instead he says that such injuries would be inadvertent and therefore excusable, that others use violence too, and anyway, the injuries done to the earth far outweigh any humane consideration for mere people.

Those who have not read the book will presume that I am exaggerating and lampooning its arguments. That is not true. Here is presented a strange, alien ideology that cares nothing for human values or decency. I can't believe this book is read as often as it is referenced. I would be ashamed to have my name associated with such sentiments.

Why isn't murder on the environmental agenda? Search "Green Rage" carefully and you will not find a clue. Rather: humans have no special claim on existence; no more than the rocks and water and trees and animals. They are a pestilence and all of their works must be undone. Another blank spot: the earth should be returned to wilderness; presumably this will require a drastic reduction in population. How, I wonder, can this be done? Ghastly images come to mind; Manes says nothing about it. He does say that it is "time to make the choice between the natural and cultural world." What can that possibly mean?

The only morals expressed in the book are that the ends justify the means; an

old story that always has the same ending. Substitute "racial purity" or "the new socialist man" for "radical environmentalism" and the result will be very familiar to students of history.

"But we are not like that! Our cause is just!" Of course, of course.

Water, stones and trees are the perfect radical constituency. They are silent and never repudiate crimes perpetrated on their behalf. This is a return to the days of religious wars; every army claimed to be fighting for the true God. What constrained them; who could deny that it was true?

In a bizarre reference, Manes compares the ecotagers with liberators rescuing concentration camp victims from their prisons. Think about that: here we have a crew who proclaim that they are beyond the law, who find no intrinsic worth in humanity, and who are eager to use violence to achieve their ends. Are they more like the prisoners, or more like the guards?

Although I doubt if ecotage will ever be more than a short-lived, childish phase in anyone's life, it is possible that as a movement the radical environmentalists will achieve some of their goals. To the extent they succeed in killing morals and all regard for civil society, they bring us closer to where they want to go: the end of humanism, culture and civilization.

Bill McClain
Naperville, Illinois

Corrections

From *WER* #70 (Spring 1991):

Neighborhood Caretaker (p. 48) has moved to 1522 Grand Avenue, Apt. 4C, St. Paul, MN 55105; 612/698-0349.

From *WER* #69 (Winter 1990):

Lizzenegreasy (p. 83) has moved to Dai Ni Kuroda Kopo 203, Funabashi 5-30-6, Setagaya-Ku, Tokyo 156, Japan.

The correct title for the newsletter of Consumers Union of Japan (p. 96) is Shohisha Report.

From *WER* #68 (Fall 1990):

The Video-Sig Library (p. 87) is no longer in business.

From *The Whole Earth Ecolog*:

(P. 40) Building Fences' price is now \$6; AAVIM has moved to 745 Gaines School Road, Athens, GA 30605; 800/228-4689.

(P. 103) Elderhostel has moved to 75 Federal Street, Boston, MA 02110; 617/426-7788.

(P. 114) The Tracker School wishes to point out that it was his best friend's grandfather, an Apache tracker, who taught Tom Brown Jr. his woodcraft. The School's correct phone number is 908/479-4681.

(P. 122) College of the Atlantic has a new address: 105 Eden Street, Bar Harbor, ME 04609. ■

This is a great example of what you're in for if you join Post Host-ies. Our initial call for letters yielded many; we'll let the letter speak for itself.

To the WEBtrust/Post-Hosties

From two post-industrial nomads

Dear Whole Earth WEBworkers:

When we read the open invitation (WER #69) to join the proposed Post-Hosties project, we had the very same thought: YES! Why? We are members (along with many others we know) of a dispersed and diverse yet evolving and expanding world-wide community of modern, global nomads — post-industrial nomads — a community we believe should be engaged in the dialogue you propose, and a community that could serve as a valuable resource to others in such a dialogue, whether through a postal network or the WEBtrust.

Post-industrial nomads? As a category of traveller, the post-industrial nomad fills the gap between the tourist on the one hand, and the immigrant on the other. As an actor in modern society and the global modernization process, the post-industrial nomad performs the function of mediator between different cultures, institutions and communities around the world. The growth in number and diversity of post-industrial nomads reflects the growing complexity and interdependence — both conflictive and cooperative — of the nations, institutions and peoples of the world.

Since World War II, there has been a dramatic increase in the number of persons living for significant periods in countries and cultures other than that of their birth or passport, playing certain specific sponsored roles. They are missionaries and diplomats, teachers and soldiers, artists and scientists, writers and doctors, bankers and scholars, technical consultants and volunteers, reporters and farmers. They are sponsored by nations, businesses, universities, foundations, churches, private voluntary and international organizations. They learn to work in other cultures as counterparts or coequals, rather than colonialists — while living in convivial interdependence rather than imperialist isolation.

These individuals and their families are defined in academic literature as members of the Third Culture: "A pattern generic to

a community which spans two or more societies with the expressed purpose of linking them or mediating them." The breadth of their cross-cultural experience is complemented by the depth of their shared third culture identity, which together transcend their individual countries of origin, external appearance, ethnic background, political views or passport designation. Third culture children, in particular, often find they have much more in common with each other (whatever their geographic or historic experience), than they have in common with contemporaries from their own cultures of origin or national passport.

Indeed, through the experience of significant time living, working, learning and communi-

cating in cultures other than their own, the third culture is shaped by the necessity of learning certain critical skills — fluency in several verbal and non-verbal languages; discernment, confrontation and appreciation of different values and attitudes; successful negotiation of complexity and ambiguity; deep involvement in information-sharing, network-building and providing service; and a commitment to communication between both individuals and cultures — strategies of communication and adaptation demanded by the increasing mobility, complexity and accelerating change that so characterize the modern world.

We believe those experiences that shape the third culture, and the lives of post-industrial nomads, hold clues vital to successful co-evolution in our increasingly global and interdependent, yet increasingly differentiated and complex post-industrial world. We also believe these experiences identify the third culture as a valuable community resource, and post-industrial nomads as valuable additions to WER's success in mapping the frontiers of an emerging global reality while exploring new or alternative modes of interpersonal and intercultural communication.

By providing a niche for the post-industrial nomad — by creating a little context for a third culture community within your continuing dialogue — your discourse will be

enriched and expanded with new information and insight gleaned from that community's shared experience. Your readers will be rewarded with a new source of reports from diversely-informed, world-experienced folk on the topics of nomadics, international issues, whole-earthism, learning/education, spirituality and cross-cultural communications as they continue to move, work and grow on the frontiers. By creating a positive point of reference for post-industrial nomads, new strands may be added to the *Whole Earth* web, possibly creating a nexus for a new community oriented to the values of diversity, cross-cultural richness and peaceful endeavour.

—Kathleen Jordan, PhD
& William Shuyler
Washington, DC 1/10/91



You're invited to be a writer.

Post Host-ies is an experiment in communication among our readers about specific subjects. We've seen it work electronically for users of the WELL; we've seen it work with Action Linkage, which runs various letter-groups, and with which we're working on this project. We think it can work for our readers. We had 33 people in our first round. It's up to you to join in, to provide the required zing.

How it works: Participants write in to the *Post Host* (us, for now) on a regular schedule; we sort by topic, copy letters and make packets of each piece in a topic area; then we mail out the packet to each participant in that topic area.

Topic areas: We have launched five topics: environmental restoration; education and learning; alternatives/sustainables; information and computers; and communities and cultures (of a *Whole Earth*ish sort). We are hoping that readers of our fall-release book, *Helping Nature Heal*, will join the environmental restoration *Post Host-ies*, making it a real tool for workers in that field.

What to do: Write no more than one page about a topic, including your name, address and the topic at the top. Mail it to us (attn: *Post Host*). Enclose US\$6 (\$7 overseas) to cover your first round; subsequent rounds are cheaper. We'll send you the letters we receive in your topic group. ■



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NO, GATE FIVE ROAD has not been transformed into a nest of glassy-eyed techno-optimists. Yes, the last few issues have featured a large number of articles about ways to use computers and communication technologies to leverage political and community-building activities. We will continue to run articles and reviews about bleeding-edge ideas, from artificial life to educational software. But we have no plans to abandon our commitment to environmental restoration, nomadics, community-building. Kathleen O'Neill still keeps our office garden as lovely as possible, given drought conditions. Richard Nilsen still keeps close tabs on environmental issues. I still devote every Sunday to my flowers, my vegetables, my greenhouse. We might have electrons on the brain, but most of us have honest dirt under our fingernails. We haven't abandoned our roots; we're simply extending our antennae.

We get a lot of mail; most of it has been encouraging. Readers, for the most part, like our new look, and like our issues about Japan and Highways of the Mind. Some of our readers feel that inclusion of technology-oriented articles that aren't strictly negative constitutes some kind of betrayal of our ecopolitical ideals. The strongest dissenters are likely to end up in Backscatter. We hope our non-technology-oriented loyalists stick with us; we have plenty of news in store for you, a couple of years ahead of other magazines, as usual.

Having said that, I do want to note that my book, Virtual Reality, will be published in July by Summit Books. Three years ago, when I started traveling around the world to research the state of the art in this emerging technology, I was a techno-optimist. Now I'm a techno-not-so-sureist. I do know that it is high time for the widest possible population to become informed about the new technologies that are going to change our lives, and to engage in public dialogue about what we do and do not want technologies to do for us and to us.

Speaking of science fact and science fiction, we made a heinous boo-boo in our last issue when we described Analog Science Fact/Science Fiction as "regrettably defunct." This magazine, which turned me on to science and science fiction in my youth, is still alive and well. Subscriptions are \$34.95 a year in the US and its possessions, \$40.50 in all other countries (however, the April issue has a blow-in card offering a special rate of \$19.97 for 12 issues/\$29.50 for 18 issues). Call 800/333-4561 to subscribe.

I promise to refrain from publishing photographs of my daughter and/or my new hairdo in Gossip. However, we might just put a few pictures of our mothers in issue #72, which will feature some articles about elders.

—Howard Rheingold

POINT FOUNDATION REPORT: 1990

Part I

IN-HOUSE

OBJECTIVE: SUSTAINABILITY

Nineteen-ninety was a year of deciding to change and starting to do so. The Point staff and board concluded that we needed to build toward a sustainable future as an organization. We tire of repeated boom and bust; you tire of hearing us plead poverty; we owe it to ourselves, and to you, to shape up. By hiring our first executive director, we put concerns of overview and coordination, which had always been back-burnered, squarely on someone's front burner:

- Who are we?/what are we evolving toward? and
- Do we have a good set of systems, a sound "organizational ecology," to ensure that we get there?

Who are we?/What are we evolving toward?

We realized we needed to change. Change what? (Twenty years embeds a lot of habits.) Everything — what we do, how we do it, who does what, our goals — was opened to review. We posed the question: what are we here to do? The answer seemed to split into content (our mission), and style (how we do what we do). In terms of mission, the 1990s apple didn't fall far from the 1960s tree; there's more emphasis on community and putting people together now, but the same self-education/shaping-one's-own-environment principles of the original Catalogs still rule.

More important to our renewal than any change of mission is our examination of how we act, especially with our readers. The old sacred hows remain sacred: seeking to act with honesty and openness; inviting interaction, critical and otherwise; experimenting, testing new ground, pulling back if need be; making adjustments, ever changing.

But there is a whole other level of style questions. With a goal of financial self-sufficiency, what is and is not acceptable to do? Should we accept advertising? Should we do aggressive direct-mail campaigns? Should we make financial arrangements we don't tell you about? Making money is often a matter of making compromises. Which actions compromise us, and which don't?

We discuss specific issues at length. We want to take the right steps to become financially robust without compromising our integrity. Howard's wisdom on this: "It's our job to agonize over these things; it's also our job to decide at some point, and to deal with the consequences as best we can."*

* For these and other ponderations, stay tuned for issue 72, in which we'll try to describe the decisions we face in creating *Whole Earth Review* and trying to break out of what's lately been chronic poverty-driven thinking.

Internal environmental restoration: investing in a sound organizational ecology

Stalwarts remained, but 1990 saw a lot of staff turnover. The editor/editorial assistant/production manager team was entirely different in September from that in August. By the fall, we had new people in accounting, circulation, fulfillment and data entry. In the midst of that flux, with cash in its summer drought, and with a major event (Cyberthon)

coming to a boil, we sought to begin strengthening our organization.

Communicating. Coordinating. Clarifying responsibilities. Setting priorities. Those overworked organizational tenets came alive in terms of concrete individuals and concrete decisions. It was amazing how often the left hand didn't know what the right hand was doing. Who talked to whom about what? With lots of new people, minimal orientation and no regular meetings, just sharing information presented a challenge.

We focused on decision-making. For years a lot of decisions had been "kicked upstairs, and there's no one upstairs." Who was to make which ones? Who was to be consulted? Where were we consensual, where hierarchical? To make decisions, what information was needed? What was available? Not much. We needed to invest time in creating and understanding reports in accounting, control and circulation. Part of becoming fiscally sound was to give financial information visibility and weight in decisions. Eventually, we took a stab at planning and budgeting, which can't happen until people know their responsibilities and systems are in place to process and spit out numbers.

We set priorities: the magazine comes first. Book publishing will be a regular and integral part of our operation, a second line of business. Projects, ever exciting and ever a risk to the magazine's financial health, have to meet new criteria

until further notice: they have to break even; they have to be central to where we're going if we do them; if they're not, we'll still play but will structure the projects outside Point.

Along the way, we made moves to increase revenues: raising the newsstand, institutional and subscription renewal prices of WER; promoting back issues and Unclassifieds more vocally; recruiting pro bono help to increase the sales volume of WER; reusing the Environmental Restoration issue (#66, spring 1990) to make a book. These all have long feedback times, but we hope to see benefits from them soon.

Part 2

OUT-HOUSE

Here's what we think we did in 1990 to play our particular part in making the world a better place. The items are categorized, a bit arbitrarily, in terms of Point's three-part mission.

to point people at information and ideas

Of 1990's four issues of WER, "Access to Japan" (HLR, editor) probably broke the most new ground in terms of content, helping us expand toward the "whole" in Whole Earth. The Environmental Restoration issue (RN) was certainly the most "earth'y" in a while, and proved to be a good collection for restoration workers. The Biosphere-cover issue (KK) beat our media colleagues to the punch (many readers phoned up saying, "Yeah, hi, I'm in Arizona. How do I find that place?"). The Volunteers-in-Earthquakes issue (KK) reached new audiences for us,

as fire and police departments and volunteer organizations all over the U.S., even in faultless communities, asked permission to make thousands of copies of the lead articles by Stewart Brand and Mark Rennecker. The Whole Earth Ecolog (JB, editor) appeared in October. Rather than teaching theory, the Ecolog focuses on real people who have achieved real results, treating the subject in our typical whole-systems way.

to point people toward other people

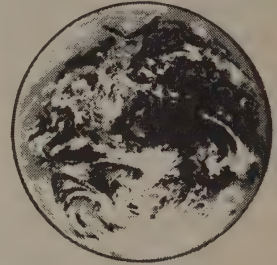
At the 24-hour, hands-on Cyberthon, the Whole Earth Institute welcomed 700 people to explore the future of "virtual reality." Hardware hackers, potential users (artists, teachers, performers) and general enthusiasts discussed the questions that must be asked before a powerful new technology is unleashed. It made for a brain-tickling exchange of views, many beginnings, and a great time.

Point Foundation also sponsored the Hackers' Conference 6.0, the latest incarnation of our 1984 experiment, bringing together computer enthusiasts to swap ideas on where electronic society is headed.

to provide people with communication tools and thereby to help build communities

We started Post Host-ies as an experiment in communication among the members of the Point community. Readers of WER can converse, in groups, by mail. For example, we hope that those involved in environmental restoration will use this tool to share information, strategies and successes. Others who have always been on the receiving end of WER may discover that they, too, can be writers (see page 135).

The WELL (half-owned by Point) ended 1990 with 4,305 subscribers, up 30 percent for the year. The community that congregates there continued to flourish. The Gulf/War conference gave people from all parts of the spectrum a place to get information and share opinions and feelings about the Mideast situation. The WELL also helped to spawn a whole new movement addressing civil liberties and privacy issues.



What next for Point?

Internally, more of the same. We have a lot to learn in making ourselves a sustainable, robust operation. We have to focus on quality in everything we do. Possibly most important is to be able to afford to put more time into what we do, because there's never enough. If you'd consider helping out in this regard, see the message on page 140, in which we importune you for funds.

In terms of impact on the outside world, we need ever to improve Whole Earth Review and to build our subscriber base. We reach a different audience through books, and want to put tools in the hands of more doers that way. We hold the long-term goal of bringing our 20 years of amassed information to our readers in an easy-to-access way. And we're going to explore the opportunity of a Whole Earth Radio Show, one where listeners write part of the show. Tune in again next time!
—Kelly Teevan

Point Foundation 1990 Provisional Income Statement¹

Year ended
December 31, 1990

What the Numbers Mean To Us

It's good news. In 1988, we lost roughly \$100,000, and in 1989, about \$50,000. In 1990, we broke even on operations (see note 3 below for details). The trend is your friend! Given how grim things looked at midsummer, we're delighted! Every member of the staff contributed to our success, making lots of individual small and not-so-small improvements. We grew by about 1,700 subscribers during the year. We sold more back issues, Unclassified ads, and books, especially the Eclog. We even sold an old typesetting machine. The holiday gift campaign went very well, for which we thank those of you who are subscribers (or are clever enough to have generous friends who are). Staff members kept a close eye on costs, shortening their hours, meeting budget on key editorial costs, and really pitching in to become more efficient. At the same time, we invested in designing our future, as described in the Point Foundation Report (see p. 137).

Notes on the numbers

1. These numbers differ in format and validity from those you've seen in the past. While incomplete, they do reflect adjustments not shown to you in past years (by the time we knew them, ten months had passed). The WER revenue number (our biggest) is based on the copies of WER we actually delivered, not on the cash received, in 1990. Depreciation and other year-end adjustments are also reflected. (To see the impact of such adjustments, look at issue 66, page 144. The Point Financial Report shows a profit for 1989 of \$37,000; the correct number, after adjustments, was about a \$50,000 loss.)

2. The apparent profit ("net revenue contributing to G&A expenses") in each area of activity is misleading if you stop there. The total net revenues have to cover the overhead ("general and administrative expenses") of running the organization.

3. Although it looks like we made \$14,000, not all of our revenues are available for operations. A one-time \$17,000 profit, which resulted from fundraising, is set aside in the Whole Earth Institute; this is the actual WEI profit after related "G&A Expenses" are deducted. So, on ongoing operations, we ran \$3,000 in the red. —KT

Revenue and Related Direct Expenses:	Revenue	Related Direct Expenses	Net Revenue Contributing to G&A Expenses ²
Whole Earth Review	\$595,962	\$498,806	\$97,156
Book production, sales and royalties	105,700	78,830	26,870
Chronicle column	28,050	27,143	907
Whole Earth Institute (WEI)	147,132	111,543	35,589
Public support (other than WEI) ...	22,402	0	22,402
Mailing list	24,851	3,164	21,687
Hackers 6.0	15,575	15,000	575
Other	10,901	0	10,901
Total	\$950,573	\$734,486	\$216,087

General and Administrative (G&A) Expenses:	Amount
Salaries and related expenses	\$96,257
Rent, maintenance, repairs and rentals	46,410
Depreciation and amortization	16,200
Telephone and utilities	10,028
Office expense: supplies and postage .	18,787
Taxes, insurance, fees and other	14,177
Total G&A expenses	\$201,859
Excess of revenues over expenses	\$14,228³

This financial report is designed for management purposes. Additional year-end adjustments may be necessary, and disclosures required by generally accepted accounting principles have not been made. Accordingly, this financial information should not be relied upon by those not informed about Point Foundation's financial position.

What this standard disclaimer means is that this is not an audited financial statement; it was prepared primarily for our own use. We include it, however, to give our readers a timely idea of our activities, volume and general trends.

—Chris Goodson

JUST ASKING

This is to prepare you to make a donation to Whole Earth so that we can keep doing what we alone do, do it better and do more of it: acting on your behalf as curious investigators, to provide a unique take on what's really going on in the world. A key part of receiving donations is asking for them, and we haven't been very consistent or vocal in asking. Last year, for example, less than 2 percent of our budget came from cash contributions to WER (to those of you who gave: another big Ank-you Thay!) So we're going to turn up the volume just slightly.

No flood of junk mail here. We don't want to be a place that spends 80 cents to get a dollar, and a mailing to all subscribers might turn out that way. So this summer we plan to mail a letter to those of you who have made contributions in the past. We think we're most likely to reach would-be donors that way, and some cash in during summertime would be very helpful. We encourage the rest of you to get in on this, too. To join in, do one of the following:

(1) send us your name and address, so you can get our cleverly crafted letter; or (2) better yet, mail us a check now, and we'll send you the letter along with our thanks.

Why give? In the case of many laudable causes, you give money to support work you believe in, which directly benefits other people (or animals, or the oceans, or . . .), and you get the good feeling of putting your money where your heart is. In the case of Whole Earth, our work directly benefits you — by keeping this independent channel of information and ideas cooking — and you get the sense of helping out, maybe even of paying us to represent you.

Our thanks in advance. We will be doing very limited mailings to ask you to support us, so if you do receive our letter, please give it serious consideration. Your support does make a difference to us, both emotionally and financially. We will report back to you how this approach turns out, and the steps we plan to take as a result of what we learn.

—Kelly Teevan

BACK ISSUES

“NEWS THAT STAYS NEWS” is how we like to think of what we publish. Many of our old issues are remarkably timely since we often cover topics several years before other publications do, and because our old interests keep resurfacing as news.

Our most recent issues are described below. Write us to request a complete listing.

65. Winter 1989 — The Global Teenager; a first-hand report from around the world; the rock'n'roll revolution in the Baltics, U.S.S.R.; how to teach English in Japan; spontaneous healing and miracle cures; a free worldwide computer network. **\$7.**

66. Spring 1990 — Helping nature to heal, an issue devoted to the nitty-gritty of successfully restoring natural environments, from savannas to old mine pits to forest creeks. Also: a crime lab for animals; being a nonviolent escort in Central America. **\$7.**

67. Summer 1990 — Biosphere II, an airtight glass ark for eight people and 1,000 species of wildlife now ready to be sealed for two years in Arizona; artificial ecology and flocking robots; the solar-powered cottage; a book Stewart Brand won't write; rats as housepets. **\$7.**

68. Fall 1990 — Learning from the earthquake, by Stewart Brand; European organic agriculture; the FBI blunders into the electronic frontier of cyberspace; junk mail backlash by fed-up addressees; special section on Radio Earth. **\$7.**

69. Winter 1990 — Access to Japan, including: the origins of Japanese group-mindedness; Michael Phillips on US-Japan relations; Bruce Sterling on Japanese pop music; the role of whaling in Japanese culture; Japanese environmental groups. Plus Murray Bookchin and Dave Foreman. **\$7.**

70. Spring 1991 — Determining the future of a nationwide information and communication network; access to political tools and access to poetry; laughing your way to health with the Gesundheit Institute; do-it-yourself eclipse prediction, by William Calvin; Cyberthon 1.0. Plus Wavy Gravy, Will Baker, Robert Bly, Gore Vidal. **\$7.**

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Rare issues (fewer than ten in our archives): #1, 52. **\$100.**

Extinct issues (out of print; bound photocopies): #3, 6, 7, 8, 9, 27, 28, 51, 53, 55. **\$30.**

Bound photocopies of Endangered and Rare issues are also available for **\$30.**

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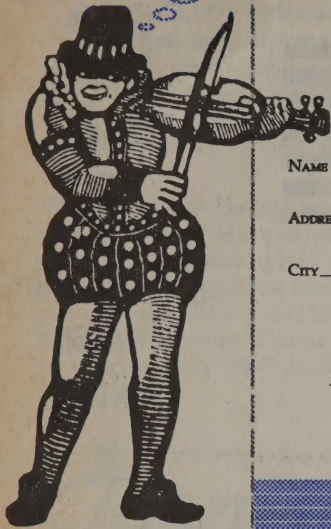
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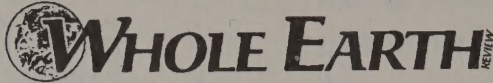
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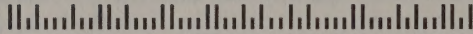
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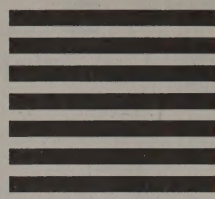
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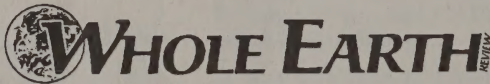


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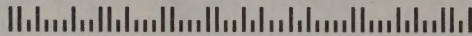
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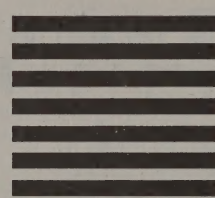
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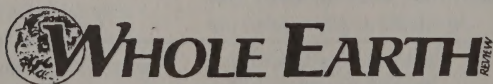
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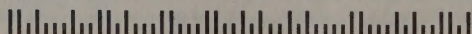
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Photo by Tom Erikson/hand-tinted by Kathleen O'Neill

The Spirit of the Water is a twelve-foot-high construction of cloth, wood and papier-mache, mounted on a standard backpack frame and carried on a puppeteer's shoulders. The piece was built in 1990, one of sixteen large puppets transported from San Francisco to Nevada for a "procession of fools" at the nuclear test site there. It has since been activated at the Day Of The Dead celebration, protests against the war in Iraq, and group workshops where puppeteers are trained and new puppets built.

Wise Fool Puppet Intervention, a San Francisco community collective, has been building giant puppets for peace marches, political demonstrations, civil-disobedience actions and environmental awareness since 1988. The group defines its work as creating "art as intervention, art as social change."

Wise Fool has an open and evolving membership. For information, contact Wise Fool at 1075 Treat Avenue, San Francisco, CA 94110; 415/826-7257.

—Tom Erikson